Lives Lived

Memoirs - Members of the Canadian Geotechnical Community

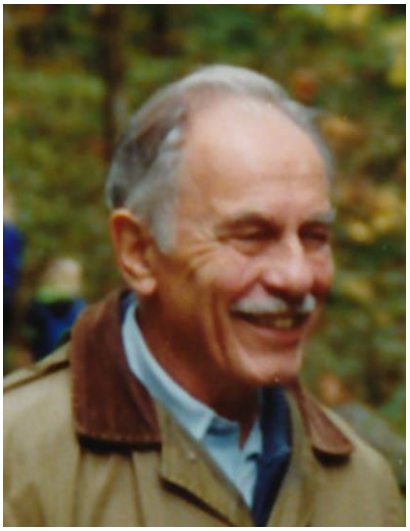
The following file contains short memoirs that were prepared following the deaths of some of our colleagues in the Canadian geotechnical community. They have been hyperlinked to facilitate access. Guidelines on preparing and submitting memoirs can be found in the accompanying file *'Guidelines to Authors'*.

The memoirs include short descriptions of the life and careers of the following:

Andrew (Andy) Baracos (d.2013)
Donald (Don) J. Bazett (d.1999)
Michael R. Bleakney (d.2013)
J.I. (Jack) Clark (d.2010)
Carl B. Crawford (d.2010)
Oscar Dascal (d.2008)
K. Dieter Eigenbrod (d.2005)
Z. (Dan) Eisenstein (d.2009)
Frederick (Rick) W. Firlotte (d.2010)
John A. Franklin (d.2012)
Robert M. (Bob) Hardy (d.1985)
Graham Harris (d.2014)
Beverley (Bert) G. Hoare (d. 2007)
T. Cameron Kenney (d.2008)
Earle J. Klohn (d.2013)
Robert F. Legget (d.1994)
Donald (Don) H. MacDonald (d.2008)
Norman McCammon (d.2009)
G. Geoffrey Meyerhof (d.2003)
Victor Milligan (d.2009)
Pierre Morin (d.1999)
Milos Novak (d.1994)
Kenneth (Ken) R. Peaker (d.2010)
Ralph B. Peck (d.2008)
F. Lionel (Peck) Peckover (d.2015)
Robert (Bob) Peterson (d.1969)
Robert (Bob) M. Quigley (d.1995)
Charles F. Ripley (d.2007)
Marius Roy (d.2004)
E. Karl Sauer (d.2001)
Larry G. Soderman (d.1969)
A.G. (Tony) Stermac (d.2002)
Hugh B. Sutherland (d.2011)
François Tavenas (d.2004)
Benjamin (Ben) Torchinsky (d.2013)
William A. Trow (d.2012)

J.Graham, CGS Heritage Committee
Updated 18 September 2015

Andrew (Andy) Baracos (1925 - 2013)



Andrew Baracos was Professor of Civil Engineering at the University of Manitoba for 40 years and an active consulting engineer for 50 years.

Following childhood in Banff, he was an early MSc graduate in soil mechanics at the University of Alberta in Edmonton in 1949 at a time when the subject was a new and growing discipline. After his MSc program, Dean R.M. Hardy recommended his appointment to the University of Manitoba (UofM). There, he taught the first course in soil mechanics, set up a soil testing laboratory, planned new undergraduate and postgraduate courses, and started research projects that made important contributions to improving construction practice in Manitoba and elsewhere.

Andrew was the first specialist in soil mechanics in Manitoba. Shortly after his arrival, he initiated drilling and sampling on behalf of the Division of Building Research, NRC, at the Transcona Grain Elevator, which had failed during first filling in 1913. (At the same time, Ralph B. Peck had also mobilized drilling at the same site.) The results of these two site investigations contributed an important case study that supported the bearing capacity coefficients proposed by A.W. Skempton for shallow foundations on clay.

In those early years, the UofM encouraged its engineering staff to engage in consulting practice that contributed to their professional development. After the disastrous Red River flood in 1950, Andrew contributed actively to the Greater Winnipeg Dyking Board, subsequent Red River basin investigations, and studies of flooding and swelling/shrinking on house foundations.

Andrew Baracos and his professional colleagues helped establish a solid basis for consulting practice in the Lake Agassiz clays in Manitoba. Important topics included the stability of Winnipeg riverbanks, bridge foundations, an aqueduct in bedrock under the unstable banks of the Red River, pipeline crossings, foundations for large and small buildings, basement uplift, temporary support for excavations, water reservoirs, roadways and pavements, permafrost, and water power developments. His work with the Winnipeg Rivers and Streams Committee led to early recognition of the work of geotechnical engineers in riverbank projects.

Andrew's consulting activities also led to many successful research projects on riverbank instability, vertical ground movements related to swelling and shrinkage, damage to cast iron water pipes due to corrosion, compositional and structural anisotropy of Lake Agassiz clay, and to the preparation of geological engineering maps in support of urban development in Winnipeg.

Andrew Baracos led the CIDA team that helped establish Khon Kaen University in Thailand in 1965-66. He was Head of Geological Engineering at the UofM from 1978 to 1983, and Visiting Professor at the Universities of Glasgow, Arizona, and Chiang Mai, Thailand. He was a long-time member of the Association of Professional Engineers of Manitoba (APEM, now APEGM) and served on Council from 1967 to 1971. He helped found the Winnipeg Soils Group, which later became a local section of the Canadian Geotechnical Society (CGS). He received a Fellowship from the Engineering Institute of Canada in 1978, and Awards of Merit from APEM in 1988, the CGS in 1989, and the City of Winnipeg in 1989. He retired from the UofM in 1989 and was appointed Professor Emeritus in 1997.

Since 1989, Andrew resided in Victoria, British Columbia where he enjoyed retirement and the company of family and friends. His wife Mary died in 2001. They are survived by their children Paul in Victoria, British Columbia; Theodore in Paris, France; and Vickie in Edmonton, Alberta.

One of his early postgraduate students, Alv Dyregrov said, "All of us have maintained a respect and admiration for Andy. He has been a friend, and on occasion, a mentor for each of us."

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Don Bazett (d.1999)

The geotechnical community and society in general lost an extraordinary individual with the passing of Don Bazett. Don was an outstanding geotechnical engineer and a truly great human being. As many of his colleagues have expressed, to work with him was always a pleasure and challenge. He was the epitome of a professional and a true gentleman.

Don received his applied science degree in civil engineering from the University of Toronto in 1949. He then took post-graduate training in soil mechanics at London University in England, where he developed a deep respect for and knowledge of fundamental soil behaviour. Starting out as a soils engineer with Geo. Wimpey and Co. in the United Kingdom, he then worked for Ontario Hydro from 1955 to 1963 on many projects, finally as Supervising Engineer in their soil mechanics laboratory. From 1963 to 1986 he was with CBC Engineering, Vancouver, as Vice-President and manager of the Geotechnical Engineering Department. Since 1987 he was a specialist consultant maintaining his own office.

During his long career, Don participated in many national and international projects that often involved multidisciplinary efforts, such as power projects, including the St. Lawrence Power Project, the Niagara Pumped Storage Reservoir, and the Keenlyside (Arrow) Dam, and water resource projects in Brazil, Belize, Nigeria, and Tanzania. He also designed or reviewed the foundations for many large bridges in the Vancouver area, including the Knight Street Bridge, Alex Fraser Bridge, Mission Bridge, and the proposed Burrard Inlet Crossing, as well as the Confederation Bridge linking Prince Edward Island and New Brunswick.

Don's contributions to the geotechnical profession and advancement in Canada were immense, not only in terms of the projects that he worked on, but also in the way that he mentored his colleagues. The sharing and passing on of experience was very important to Don. As an engineer one did not work *for* Don, one worked *with* him. Many distinguished engineers have acknowledged the honour, pleasure, gratitude, and benefit of having the opportunity of knowing Don and working with him. Don was always thinking about how the soil was actually going to behave, and he was passionate about precedent and experience. He always questioned things, not because he did not like innovation, but because he always insisted that design be based on a broad, sound, and fundamental basis. He had to be completely satisfied with the soundness and constructability of a design.

Very important and significant contributions were made due to Don's involvement on various committees relating to the geotechnical community and with the *Canadian Geotechnical* (CGJ). He was one of the founders of the CGJ, an Associate Editor for 11 years, and was Editor from 1975 to 1980. Don was always keenly and sincerely interested in the well being of the CGJ. He had a key influence on it, developing a priority for papers with practical relevance and for publishing case records of engineering projects of primary interest and benefit to practicing engineers.

While Don Bazett will be remembered for his professional contributions, his legacy will be in terms of being a sincere warm gentleman of uncompromising honesty and integrity.

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(Version en français sur la page suivante)

Don Bazett (d.1999)

La communauté de géotechnique et société dans son ensemble ont perdu un membre admirable lorsque est décédé Don Bazett. Don était un ingénieur géotechnicien de haut calibre et un homme merveilleux. Comme plusiers de ses collègues l'on dit, travailler à ses côtés était toujours un plaisir et un défi: il était le professionalism et la gentillesse incarnés.

Don a reçu son baccalauréat en génie civil de la University of Toronto en 1949. Il a ensuite fait des études supérieures en mécanique des sols à la London University en Angleterre, où il a acquis un profound respect et une solide connaissance du comportement fundamental des sols. D'abord engagé à Geo. Wimpey and Co. au Royaume-Uni, à titre d'ingénieur des sols, il a œuvré à Hydro Ontario de 1955 à 1963 sur divers projets avant de devenir ingénieur superviseur dans le laboratoire de mécanique des sols de cet organisme. De 1963 à 1986, il a travaillé auprès de CBA Engineering, à Vancouver, à titre de vice-président et de chef du département de génie géotechnique. Depuis 1987, il travaillait à son compte, en qualité de consultant.

Pendant sa fructueuse carrière, Don a participé à de nombreux projets nationaux et internationaux collaboratifs. On pense ici aux projets d'hydroélectricité tels que le projet hydroélectrique du St. Laurent, le réservoir de la central à réserve pompée de Niagara et le barrage Keenlyside (Arrow) ainsi que des projets de ressources hydriques du Brésil, du Belize, du Nigéria, et de la Tanzanie. Il a aussi élaboré ou examiné les fondation de nombreux ponts de la région de Vancouver, y compris le pont Knight Street, le pont Alex Fraser, le pont Mission et la traverse proposée de Burrard Inlet sans oublier le pont Conféderation reliant l'Île-du-Prince-Édouard au Nouveau-Brunswick.

Les contributions de Don à la profession et à l'essor de la géotehnique au Canada ont été immenses non seulement en raison du nombre de projets sur lesquels il a travaillé mais aussi de la façon dont il guidait ses collègues. En effet, le partage et l'inculcation de savoir étaient très importants pour Don. De fait, on dirait moins qu'on travaillait *pour* Don qu'on travaillait *avec* lui. De nombreux ingéieurs ont fait état de l'honneur, du plaisir, de la gratitude et de la chance d'avoir côtoyé Don et d'avoir travaillé avec lui. Don était un chercheur passionné dont l'esprit était constamment occupé par le comportement des sols. Il remettait tout en question, non parce qu'il s'opposait au progrès mais parce qu'il désirait que toute décision repose sur une solide assise: il lui fallait toujour être absolument certain de la solidité et de l'integrité d'un ouvrage.

Don a enrichi le domaine autrement que par son travail. Il a siégé auprès de divers comités du secteur géotechnique et a contribué intensément a la Revue canadienne de géotechnique. Il a en effet été un des fondateurs de la Revue, son directeur scientifique associé pendant 11 ans et son directeur scientifique de 1975 à 1980. Don s'est toujours montré sincèrement intéressé au bien-être de la Revue. C'est en grande partie à lui que l'on doit l'orientation de la rédaction vers l'aspect pratique des articles et la publication de dossiers d'intérêt direct pour les ingénieurs-concepteurs.

Don Bazett nous manquera énormément, non seulement pour ses contributions professionnelles mais aussi pour sa sincérité, sa chaleur, son honnêetté et son intégrité.

(Reprinted from Canadian Geotechnical Journal, Vol.36, 1999. NRC Canada. (Return to top)

Michael Richard Bleakney (1956 – 2013)

Michael Richard Bleakney was born in Perth-Andover, New Brunswick in 1956. He graduated from high school at age 15, and at age 16 enrolled in the engineering program at the University of New Brunswick. While completing his degree in Civil Engineering (1980), Michael worked for a construction company and met his wife Kathryn on a road-building project where he was the site manager. Michael graduated from the University of New Brunswick in Civil Engineering.

After graduating, he worked for thirteen years in private industry before joining the New Brunswick Department of Transportation. There, among other projects, he did post-construction monitoring of the Confederation Bridge to Prince Edward Island.

In 2001, Michael and his family moved to Ottawa, where he joined Public Works and Government Services Canada (PWGSC). In that position, he was technical adviser on the three main bridges crossing between Ottawa and Gatineau. Later, as a senior geotechnical engineer with PWGSC's Real Property Branch, he worked primarily with the Parliamentary Precinct Branch overseeing excavations on Parliament Hill as part of the restoration of the Parliament Buildings. He was also responsible for Parks Canada's heritage buildings across Canada. These included the York Factory National Historic Site on the Hayes River near the shores of Hudson Bay.

Michael was actively involved in the Ottawa Geotechnical Group, a section of the Canadian Geotechnical Society. He served on the Executive Committee of the OGG and was Chair from 2004 to 2006.

Michael Bleakney was a man for whom work was a profession and not simply a job. He had a wide range of other interests and was much more than just an engineer. He was described by one colleague as an exceptional intellect and voracious learner, who, unable to say no, good-naturedly carried the interest of others on his shoulders, and who, in the peculiar manner of the uncommonly curious, appeared to grow younger by the day. He sang in four choirs, ballroom danced with his wife Kathryn, learned Gaelic and in the rare times he stood still, enjoyed sampling single malt Scotch whiskeys. In 2011, he said he would take Kathryn to Scotland for a choir competition if she learned Gaelic and sang in a choir. She did both, and their choir came in third place.

In a successful bid to lose weight, Michael regularly biked 25 km to work. His secret was eating carefully and biking the 25 km from Barrhaven to Ottawa and back. If he was late, he would load his bike on the front of a bus. He and five others were killed in a bus-train collision outside Ottawa on 18 September 2013. Michael is survived by his wife Kathryn, and four adult children.

(Edited by his geotechnical engineering colleagues in the Ottawa and Canadian geotechnical communities, based in part on articles from the Ottawa Citizen, Ottawa Sun. Maclean's Magazine, and Geotechnical News.)

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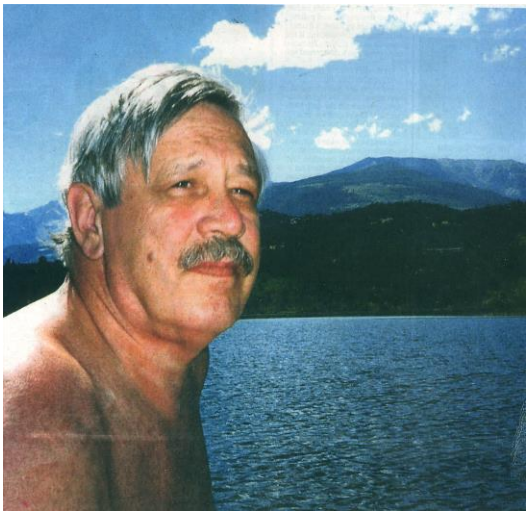
J.I. (Jack) Clark (1932-2010)



He saved a floundering C-CORE, once completing a project proposal in four days and winning out against 50 competitors; in private life, he was approachable, mischievous and loved to cook for groups, once roasting a 43-pound turkey.

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Jack Clark definitely thought outside the box. In fact, he thought outside all pre-existing structures and strictures.

As but one example, in the early 1990s, while head of C-CORE (Centre for Cold Ocean Resources Engineering), he thought Canada should have a geotechnical centrifuge. "There were some in Canada, typically desktop models," said Charles Randall, the company's current CEO and president. "Jack figured we needed one that would need its own building. He raised the funds, he convinced people, he hired the expertise."

Completed in 1993, C-CORE's centrifuge is one of the largest in the world.

"Jack never thought small, from his person to his intellect to the size of the steaks he would barbeque for you," Randall said. In fact, he said, C-CORE employees often ask themselves: "What's the next Jack-Clark-sized idea?"

Clark died of kidney failure in St. John's on Sept. 4, after five years of dialysis.

"He was a big guy, he lived big," said his friend Robert Oxley. Clark had been to China nine times, and travelled the world from Japan to Holland; there were only a few U.S. states he missed. He also explored diamond mines in the Northwest Territories, walked across high aqueducts in Spain, and camped across Canada.

"As an engineer he was interested in everything," Randall said. "He liked the tough questions."

"I've been so fortunate to have incredibly interesting projects," Clark told The Independent in 2005. "The work I did in the 1970s on the Arctic gas pipeline was certainly interesting because we were literally and figuratively breaking new ground. I thought that was going to be a unique opportunity that would never be repeated when I got the opportunity to go to C-CORE."

John (always called Jack) Ivor Clark was born Aug. 23, 1932 in Bullocks Corner (pop. 150), now part of Greensville, Ont. His mother was Viola Harkies; his father, William Gilbert Clark. William Clark worked in the family business, the Clark blanket mill, but that closed the year Jack was born. So he became a door-to-door vacuum-cleaner salesman. If the family could hear him whistling as he made his way up the road home at the end of the day they knew he'd made a sale. After about 12 years of marketing vacuums, William Clark found work at Miner Rubber Co. in Granby, Que.

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Jack was the youngest of three, with a sister, Ellen, and brother, Gilbert. When he saw his siblings head off to the local two-room schoolhouse, he wanted to go along. He was told he could go if he sat in the back and kept very quiet. This he did, a silent sponge.

One day a school inspector visited and asked the lad to read something aloud. Jack did, there was a pause, and then the inspector took the book and turned it right side up. Jack had listened so carefully he had memorized the passage.

In addition to his strong intellectual curiosity and abilities, he was very athletic. In Granby he worked summers for Munro Construction and played hockey and basketball and took par in field events like shot put and discus. In fact he started his post-secondary education, at Acadia, on a small basketball scholarship. Otherwise he had $34 in his pocket, and worked part-time as a waiter. After that first year he joined the air force as an ROTP (Regular Officer Training Plan) student. Eventually he earned his BSc (Acadia, 1955), BEng (Nova Scotia Technical College, 1957), MSc (University of Alberta, 1961), and then returned to Nova Scotia Tech for his PhD (1970).

It was at Acadia that Clark met Joan MacDonald. Acadia was then dubbed the matchmaking factory of Atlantic Canada, and diamond ring parties in the young women's dorms, celebrating engagements, were a regular social event. "But I was not interested in getting married," said Joan Clark, a well-known author. Romantic fate intervened. "I literally ran into him. I was racing to biology class. He was coming around the corner with a stack of books and binders on his hip. They went everywhere." If it was not love at first collision, it was something. "I told my roommate, 'I just bumped into the only guy around here I'd be interested in marrying.'"

They wed July 26, 1958, and had three children, Tim, Tony and Sara.

Clark's ROTP commitments saw him take a three-year posting to the RCAF Station, a Mid-Canada Line radar site, in Winisk, on James Bay. He persuaded his bride to set up house in a small dwelling that was hardly even a house, as water had to be hauled from a nearby river.

Winisk had about 100 Cree (who relocated in 1986 to Peawanuck, Ont.), and a boardwalk with a church at one end and a Hudson's Bay Company store at the other. It was in this isolated place that Clark first studied the harsh environments and ice impacts that would occupy so much of his engineering career.

After that he worked with such companies as R.M. Hardy & Associates Ltd., and Golder Associates, in Calgary and Edmonton, had a seven-month stint with the federal government in Ottawa, and then moved to Halifax. Then came C-CORE, and in 1984, the family moved to St. John's.

Clark was now the president and CEO of the floundering company. C-CORE, a separately incorporated entity of Memorial University, was then 10 years old and had been without a head for two years. Revenues were dropping. In his job interview, Clark was told he had six months to turn things around. Someone else might have balked at the challenge, but he relished it.

"He saved it," Randall said. "He saved it and he reinvented it. In its first years it did good science, but there was a culture of research grants, and it was completely tied to the oil and gas industry. When that turned down in the mid-1980s, the contributions went away. It was in a downward spiral."

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Under Clark, C-CORE developed an entrepreneurial ethic. His manner and methods were perfect for the company. He had energy and vision. In one instance, he learned of a project opportunity with the European Space Agency, and the fact that the proposal was due in four days did not faze him. Of the 50 submissions, C-CORE's won - and a Newfoundland company was now working in space.

From such measures, C-CORE grew and grew, and that growth continues. It now has offices in St. John's and Ottawa. It provides work-term experience for hundreds of Memorial University engineering, science and business students. It generates $8-million annually for the university. Its geotechnical centrifuge has an international reputation.

"In the last two years we've worked on every continent on earth, and in space," Randall said. "We've had 50 per cent revenue growth each of the last four years. We've grown from 60 to 80 employees and are about to hit 100."

Clark was also known for his tremendous encouragement of employees. At a Christmas party once, he overhead a technician say that he would like to be an engineer, but it wasn't feasible. "Come to my office on Monday," Clark told the man.

By the end of that meeting Clark was on the phone to the dean of engineering at Lakehead University, insisting that the technician be admitted to the program - which started four days later. After the technician finished that degree, Clark saw that C-CORE sponsored him though a Master's and PhD. And that technician was - Charles Randall, who now holds Clark's former job at C-CORE.

Clark retired from C-CORE in 1997, and was then its principal consultant, an engineering professor at Memorial University, as well as working as a senior principal of Golder Associates, conducting research into the Beaufort Sea oil and gas exploration, underwater structures in the NL offshore, and the Mackenzie Valley gas pipeline.

His CV of appointments, presentations, papers (at least 150) and projects fills 17 pages. And he was editor of Canadian Geotechnical Journal (1988-1992).

Among his awards were four honorary doctorates, the R.F. Legget award from the Canadian Geotechnical Society (1983), and the Xerox award for excellence in business-university research (1991). He was inducted into the Canadian Academy of Engineers in 1992, served with the National Science and Engineering Research Council and was vice-president in 1992-1994, and was on the National Research Council. He received the Order of Canada in 2003, and the Canadian Engineering Gold Medal in 2005. On that occasion, he told The Independent: "It came out of the blue and it's very exciting. But I always think, 'Geez, I know about 30 people more deserving.'"

Approachable, mischievous, and never a tidy person, Clark had an amazing retention for anything he'd read. He was an eclectic music lover, listening to opera, choral music, and jazz. He devoured novels. He loved to cook, especially for large groups of students and colleagues, and his biggest Christmas turkey was 43 pounds (the 45-pounder he'd originally ordered died of a heart attack). He made homemade bread, and dishes like cod au gratin, and loved to grocery shop, meticulously reading labels (although he always forgot something, and someone would have to make a quick salvage run). Otherwise he hated to shop and would go out Christmas Eve to see what was still open. And he never did dishes.

Clark leaves his wife Joan, children Tim, Tony and Sara, and five grandchildren. A celebration of his life will be held this month.

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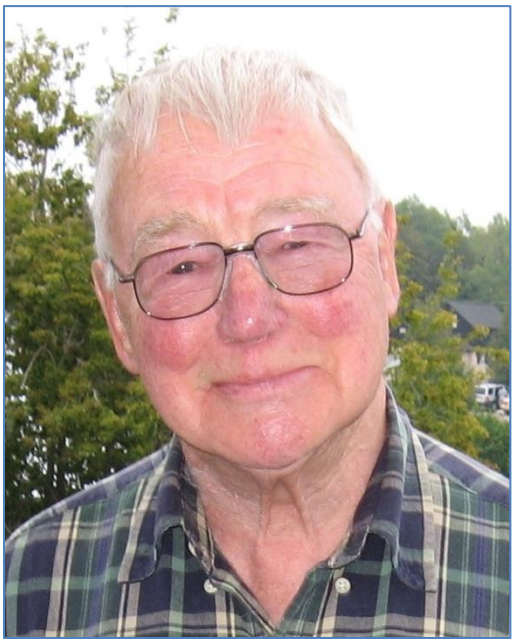
Carl Benson Crawford 1923-2010



Carl was born in Dauphin, Man. on Oct. 2, 1923. He died in Vancouver on Aug. 28, 2010, surrounded by his wife, Adah, and their four children, Nora, Henry, Meg and Blair. Carl and Adah were married for nearly 62 years and during that period shared the joys of having children and of travel to many countries, both for pleasure and for Carl's work.

Carl served as a navigator in the Second World War. After the war, Carl attended Queen's University in Kingston graduating in 1949 with a degree in civil engineering, followed by post-graduate degrees from Northwestern University in Illinois and Imperial College in London.

While at Queen's, Carl attended a lecture by R.F. Legget and was so impressed, he joined the National Research Council in Ottawa working for Legget in the Soil Mechanics Section of the Division of Building Research. This launched Carl's illustrious career in geotechnical engineering.

Carl is perhaps best known for his pioneering work on Leda clay, a highly sensitive clay which leads to of numerous landslides and major settlement problems. Carl developed testing apparatus and measurement techniques to measure the behaviour and properties of Leda clay and published several papers on this work. He also worked closely with Laurits Bjerrum and other leading researchers at the Norwegian Geotechnical Institute who were studying the sensitive Scandinavian clays at the same time.

Carl became Director of the Division of Building Research in 1974, a position he held until his retirement in 1985. During this period, he chaired the National Research Council's Associate Committee on Soil Mechanics which had considerable influence on geotechnical research and practice in Canada.

After his retirement, Carl continued his research interests spending time at Cambridge University in England, the Norwegian Geotechnical Institute in Oslo, the Centre for Cold Oceans Research in St. John's, NL, and at the University of British Columbia. During this period, Carl documented several valuable case histories where long term settlement records could be compared with predicted settlements.

Carl received many honours over the course of his career, including the 6th R.F. Legget Award from the Canadian Geotechnical Society in 1975; the Julian C. Smith Medal from the Engineering Institute of Canada in 1989; and the 1996 R.M. Quigley Award for Carl and his co-authors for the best paper of the year in the Canadian Geotechnical Journal. Carl was elected as a Fellow of the Engineering Institute of Canada (FEIC) in 1983 and, in 1985, he was invited by the Canadian Geotechnical Society to undertake a two week Cross Canada Lecture Tour. In 1984, he received an honorary doctorate of law from Concordia University in Montreal.

In addition to his family, one of Carl's true pleasures was the family cottage that he had designed and built at Sharbot Lake, located about two hours southwest of Ottawa. After Carl had retired, and he and Adah moved to Vancouver, every summer they would make the long drive back to the cottage, stopping to visit friends and family along the way. Over the years they made 40 of these trips.

Carl Crawford made a significant impact in the field of geotechnical engineering research, and particularly our knowledge of the properties and behaviour of sensitive clays. His work is an enduring contribution to international geotechnical practice.

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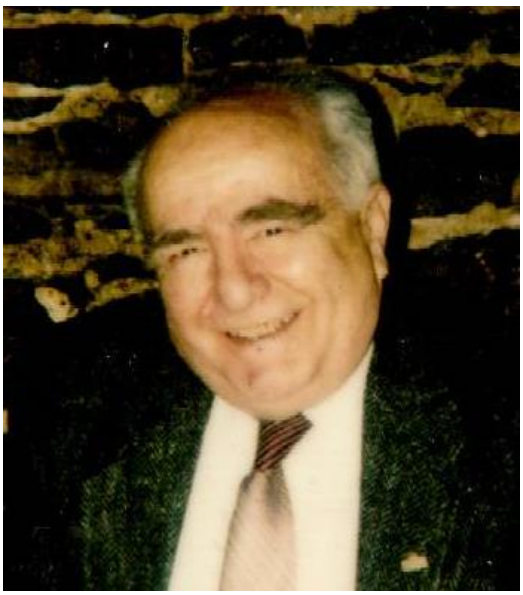
Oscar Dascal (1926- 2008)



Oscar Dascal, ancien ingénieur géotechnicien d'Hydro-Québec et membre actif de la Société Canadienne de Géotechnique (SCG), nous a quitté le 1er juillet 2008. M. Dascal était très reconnu pour son expertise dans la construction de barrages adaptés aux conditions nordiques et particulièrement pour de nombreux projets réalisés au nord du Québec.

Diplômé de l'École Polytechnique de Bucarest en Romanie en 1950, il a débuté sa carrière chez Hydro-Québec en 1966, comme ingénieur des sols, où il est devenu chef du Service de mécanique des sols en 1973, puis consultant interne senior en géotechnique et dans le domaine des structures de retenues en matériaux meubles en 1978. En 1986, il devient ingénieur senior à la direction de la sécurité des barrages de cette même entreprise.

Oscar a été l'auteur principal des standards sur la sécurité des barrages pour Hydro-Québec. Il s'est également occupé de la préparation des règlements et directives sur la surveillance de la sécurité des barrages, un travail qui lui a mérité une réputation internationale le menant à participer à plusieurs comités scientifiques à travers le monde.

M. Dascal a également occupé le poste d'éditeur associé pour la Revue Canadienne de Géotechnique. Il a été membre de l'Ordre des Ingénieurs du Québec, de l'Association Canadienne des Barrages et de l'American Society of Civil Engineering. Il a reçu en 1999, la médaille G. Geoffroy Meyerhof de la SCG et a été désigné Fellow de l'Institut Canadien des Ingénieurs en 2001.

Oscar Dascal, P.Eng., formerly employed as a Geotechnical Engineer at Hydro-Quebec and an active member of the Canadian Geotechnical Society (CGS), died on July, 1st 2008. He was well known for his expertise in cold climate dam engineering, especially for projects in northern Quebec.

He obtained an engineering diploma in 1950 from École Polytechnique in Bucharest, Romania. He started working at Hydro-Quebec in 1966 as a Soils Engineer and became Head of the Soil Mechanics Division in 1973. From 1978 he worked as Senior Geotechnical Consultant in Embankment Dam Retaining Structures, and in 1986 became a Senior Engineer in the Dam Safety Department of Hydro-Québec.

Oscar was the author of the dam safety standard specifications for Hydro-Québec, and he also prepared regulations and procedures for dam safety monitoring. This work earned him an international reputation which resulted in him becoming involved on several technical committees around the world.

M. Dascal has served as an Associate Editor of the Canadian Geotechnical Journal, and was a member of Ordre des Ingénieurs du Québec, the Canadian Dam Association and the American Society of Civil Engineering. He received the G.G. Meyerhof Award in 1999 and was named Fellow of the Engineering Institute of Canada in 2001.

Andre Dascal MD, FRCPC

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Dr K. Dieter Eigenbrod (d.2005)
Department of Civil Engineering
Lakehead University

Dr. Dieter Eigenbrod, Professor Emeritus of Lakehead University passed away on July 27, 2005 after a short battle with cancer. His untimely death very shortly after his retirement from the Department of Civil Engineering has saddened many people including his students, colleagues, and friends. Dieter is well known as a good friend to the Geotechnical community in Canada and abroad.

Dieter graduated from the Technical University of Darmstadt in 1966 and completed his PhD at the University of Alberta in 1972. Dieter was one of the first graduate students to work under the supervision of Dr N.R. Morgenstern. Over the next ten years, Dieter worked for a number of geotechnical consulting companies including R.M. Hardy and Associates in Edmonton, Beton & Monierbau and P. Holzmann, construction companies in Dusseldorf and in Frankfurt, and EBA Engineering Consultants in Edmonton, as well as spending a short period as Research Officer at Ruhr University. During his career in consulting, Dieter undertook general geotechnical engineering design and construction, with specialisation in tunnelling. In 1983, Dieter joined Lakehead University as an Associate Professor and devoted his entire academic career to the students at Lakehead University until his retirement in May 2005. His strong background in applied engineering enabled Dieter to educate a large number of civil engineers, skilled in both the academic and applied skills, in the art of geotechnical engineering. During this period, Dieter also devoted energy towards outreach and the internationalisation of the Lakehead University campus, developing active linkages with Lulea Technical University in Sweden, with the University of Oulu in Finland, with universities in Europe, as well as with the University of Manitoba and with the C-CORE geotechnical centrifuge facility and Memorial University in Newfoundland.

Dr. Eigenbrod, along with teaching and research, loved nature and music. Dieter is survived by his wife Renate and two children.

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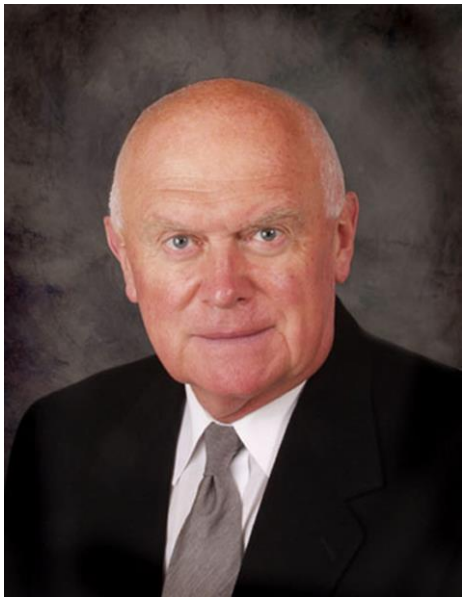
Zdenek (Dan) Eisenstein (1936 –2009)



Both the Canadian and international geotechnical engineering communities, particularly those working in soft ground tunnelling, are deeply saddened by our loss of Dan Eisenstein to cancer this summer.

Zdenek Eisentein was born in Pocatky, Czechoslovakia (in the present-day Czech Republic) in 1936. He received his engineering education at the Czech Technical University in Prague. After being awarded a doctorate in 1965, he pursued post-doctoral studies at Imperial College, London. He moved with his family to Edmonton in 1969, joining the academic staff of the Department of Civil Engineering at the University of Alberta as an Associate Professor in 1970 and was promoted to Professor in 1974. He retired from teaching in 1996, becoming an Emeritus Professor in 2001.

His clear enthusiastic instruction was well-recognized in the Faculty of Engineering. He introduced new courses in Continuum Mechanics both at the undergraduate and graduate levels. At the graduate level, he pioneered courses on Seepage and Drainage, Advanced Foundation Engineering, and a course on Tunnelling that he later delivered on at least four continents. He was a Visiting Professor in Brazil, South Africa, and Germany. He guided some forty students through their graduate degrees, published 160 or more technical papers, and made over a hundred technical presentations around the world. Eisentein's academic career was highlighted by the award of Honorary Doctorate at a special convocation of his Alma Mater, the Czech Technical University in May 1991.

Dan was of particular assistance to the Canadian Geotechnical Society in editing the Proceedings of the 4th International Conference on Numerical Methods in Geomechanics and the 3rd Edition of the Canadian Foundation Engineering Manual. The Society nominated him for Fellowship into the Engineering Institute of Canada in 1990. Dan served the International Tunnelling Association as a member of the Executive Council (1987-89), First Vice President (1989 – 1992), and President (1992 - 1995.) He was elected to Honorary membership of the Association in 1997.

Dan's consultancy in soft ground tunnelling spread from Edmonton's Light Rail Transit to over 150 projects around the world. He gave expert advice on notable tunnelling projects such as the Rio Subterraneon Tunnel in Buenos Aires, the Copacabana Metro line in Rio de Janeiro, the City Link tunnels in Melbourne, the Mrazovka tunnel in Prague and the Canada Line subway in Vancouver. For the Los Angeles Metropolitan Transportation Authority, he chaired the Tunnel Advisory Panel; he was a reviewer for the Toronto Transit Commission and an advisor for the New York MTA.

Asked by the Edmonton Journal how he became the senior consultant on the Channel Tunnel (between Britain and France) he replied, "All it takes is about 30 years' worth of work, teaching, researching, writing papers, and presenting studies at international conferences. Somebody's bound to take notice." Many of us were well rewarded for doing so.

Dan is survived by his wife, Jana, daughters Alice and Jana, sons-in-law Dave Langston and Paul Levett, and five grandsons, Sam, Max, Cole, Theo, and Sidney.

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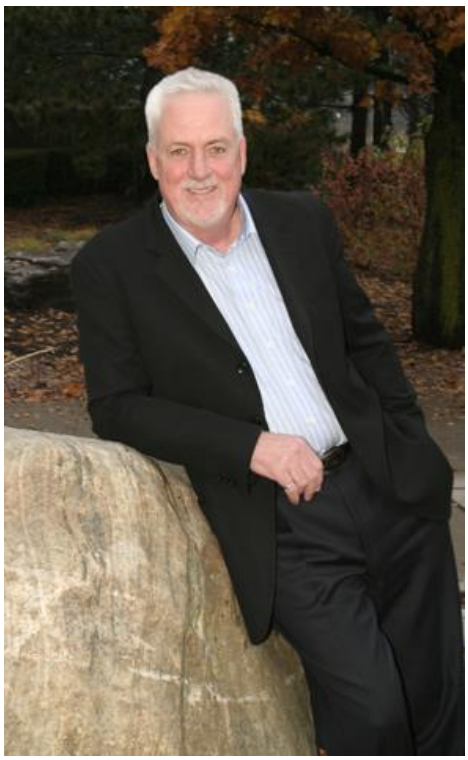
(D. Cruden)

Frederick (Rick) W. Firlotte (d.2010)



Frederick (Rick) W. Firlotte, Principal and past-Global President and CEO of Golder Associates Corporation, died peacefully in his sleep on April 18, 2010.

Born in Campbellton, New Brunswick, Rick joined Golder's London, Ontario office in 1978, shortly after obtaining a Master's Degree in Geotechnical Engineering from McGill University (Montréal). In addition to working as a geotechnical engineer, Rick's career included a number of leadership roles. In 1989, he established the Montréal office. He oversaw Golder's Canadian operations from 1996 until 1999, when he was appointed President of the global company.

Rick served as President of Golder's global operations from 1999 to mid-2009, a time of tremendous growth and change for the company. In early 2000, Golder Associates was a 2,000-person operation with offices in 16 countries and gross annual revenues of $US 202 million. By the end of 2009, Golder had grown to become a 7,000-person operation with $US 882 million in gross annual revenues and a presence in 40 countries.

Rick's legacy extends well beyond Golder's financial performance. In his role as President of Golder's Canadian operations, Rick responded to an issue identified in the company at the time: the need to invest in employees. Under his leadership, an internal training program was introduced that has since been adopted by operating companies across the Golder world.

In 2003, Rick co-founded The Golder Trust for Orphans, to provide support to children and families orphaned or displaced by the AIDS pandemic in Africa. Funded primarily from donations from employees and Golder's operating companies, the Trust has raised over $US 1 million, which supports more than 1,000 children through funding provided to 11 projects in Africa.

Rick was well-liked and respected by employees and clients alike. He had a tremendous respect for the consulting profession, and had a great instinct for what would work (and what wouldn't work) for Golder. He possessed the ability to connect with people at all levels and knew how to get people pulling in the same direction. He was a leader in the truest sense of the word and will be greatly missed by all those who knew him.

A dedicated family man, Rick is survived by his wife, France, and his two children, Nic and Elyse. In honour of Rick's memory, a donation will be made to The Golder Trust for Orphans, a cause to which he was passionately committed.

/(Version en français sur la page suivante.)

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Frederick (Rick) W. Firlotte

Frederick (Rick) W. Firlotte, Associé Principal et ancien Président de la corporation mondiale de Golder Associés , est décédé pendant son sommeil le 18 avril 2010.

Né à Campbellton, Nouveau Brunswick, Rick a rejoint le bureau de Golder à London, Ontario, en 1978, peu après avoir obtenu sa maîtrise en géotechnique de l'Université McGill (Montréal). En plus de travailler comme ingénieur en géotechnique, Rick a joué un rôle de leader tout au long de sa carrière. Par exemple, il a mis sur pied le bureau de Golder Associés à Montréal en 1989. Il a par la suite supervisé les opérations de Golder au Canada de 1996 jusqu'à 1999.

Nick a œuvré comme Président des opérations de Golder Corporation de 1999 jusqu'au milieu de l'année 2009. Durant cette période, l'entreprise a connu une croissance exceptionnelle, accompagnée de changements importants. Au début de l'année 2000, Golder et Associés comptait 2 000 employés répartis dans 16 pays pour un chiffre d'affaires de 202 millions $ US. À la fin de 2009, Golder employait 7 000 personnes, avait un chiffre d'affaire de 882 millions $ US et était présente dans 40 pays.

L'héritage laissé par Rick s'étend bien au-delà des performances financières de Golder. Dans son rôle de Président des opérations de Golder Canada, Rick a su répondre à une priorité de la compagnie : le besoin d'investir dans ses employés. Sous sa direction, un programme de mentorat a été mis en place et adopté ensuite par l'ensemble des compagnies œuvrant pour Golder à travers le monde.

En 2003, Rick a co-fondé la *Golder Trust for Orphans* afin de supporter les enfants orphelins et les familles touchées par la pandémie du SIDA en Afrique. Créée initialement à partir de dons des employés des compagnies de Golder, la fondation a amassé plus de 1 million $ US, supportant ainsi plus de 1 000 enfants à travers 11 projets en Afrique.

Rick était aimé et respecté par ses collègues et les clients de la firme. Il possédait un respect profond pour la profession de consultant et une vision de ce que Golder pouvait atteindre comme firme. Il était un communicateur exceptionnel qui savait inspirer et engager les gens à tous les niveaux et créer un environnement permettant aux équipes d'œuvrer dans la même direction. Il était un leader dans le sens le plus noble du terme. Il manquera énormément à tous ceux qui le connaissaient.

Homme dédié à sa famille, Rick laisse dans le deuil sa femme, France, et ses deux enfants, Nic et Élyse. En l'honneur de la mémoire de Rick, un don sera fait à la *Golder Trust for Orphans*, une cause dans laquelle il était engagé passionnément.

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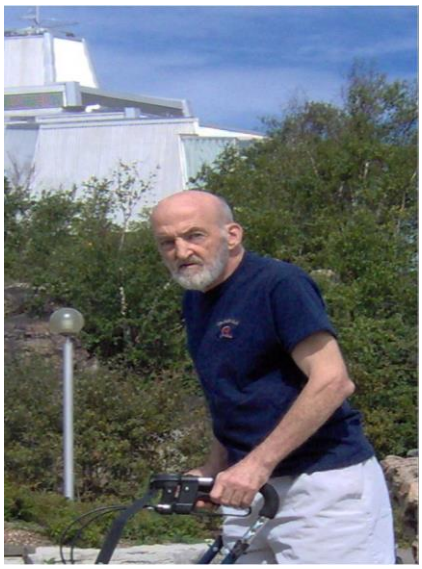
John Alan Franklin 1940-2012



Dr. John A. Franklin, an important figure in the world of rock engineering, passed away on 6 July 2012.

John Franklin served as an officer in the Royal Engineers (1958-1963), before completing his BSc in Civil Engineering, an MSc in Engineering Geology, and a PhD in Rock Mechanics at the Royal School of Mines (Imperial College, London). During his stay at Imperial College, he developed testing methods that form the basis for much of present-day rock classification.

He then worked as a consulting rock mechanics engineer in the USA, Mexico, and the UK, before moving to Canada in 1975 and founded Franklin Geotechnical Ltd. In 1982, he joined the Univ. of Waterloo as a part-time research professor in the Department of Earth Sciences, where he taught engineering geology, technical writing, tunneling and underground works. He authored and co-authored over 100 research articles and wrote two college-level textbooks.

Dr. Franklin served as the President of the International Society for Rock Mechanics from 1987 to 1991. He also worked as a member of ISRM Commissions on Rock Mass Classification and on Swelling Rock; as President of the ISRM Commission on Testing Methods; and developed programs to assist the newly emerging countries of Eastern Europe. As an executive member of CARMA (the ISRM in Canada), John proposed and then helped organize the ISRM Congress in Montreal in 1987. He also contributed significantly to the Canadian Mine Monitoring Manual and a similar manual on Blast Fragmentation for the ISRM.

John Franklin was involved in many fascinating projects such as the foundations of the CN Tower in Toronto, the Sudbury Science North Centre (seated across a major fault), the 2100 meter deep Neutrino Observatory (SNOLAB) in Sudbury, a feasibility study for a tunnel between New Brunswick and Prince Edward Island; and a rock breakwater inTierra del Fuego at the southern tip of South America. He was well known internationally for his contributions to design engineering, rock testing methods, monitoring, rock fragmentation, and joint fabric analysis through imagery. He had a profound understanding of the intersection between geosciences and rock engineering, an understanding that pervaded his professional career.

John was diagnosed with Parkinson's disease in 1991 but continued to contribute and enrich the lives of everyone around him with his irrepressible elfish humour. He died in 2012 after an unusually long and determined fight against the disease that eventually defeated his physical body but never his spirit. His wife Dr. Kerstine Franklin helped John greatly during his last years. She said "despite John's disease, he was determined to live life to the fullest." In his last years, he and Kersty were co-proprietors of a bed-and-breakfast inn in Hockley Valley, Ontario.

The single-minded dedication that John brought to rock mechanics and rock engineering reminds us that the world is built on the ideals of a few leading visionaries. John was such a visionary. He remained intellectually active long after his physical disability restricted his movements and travel opportunities. In 2011, he travelled for the last time to the ISRM quadrennial Congress in Beijing. He was saying goodbye, though he would never have admitted it. If the International Society for Rock Mechanics has become an important professional organization, it is partly because of John Franklin.

Maurice Dusseault, Waterloo Ontario, July 2012 (Return to top)

Robert Macdonald (Bob) Hardy (1905-1985)

Bob Hardy graduated in 1929 from the University of Manitoba as a Gold Medalist in Civil Engineering, and obtained a M.Sc. degree from McGill University in 1930 in structural engineering. He became a lecturer at the University of Alberta in applied mechanics in 1930 and introduced what was probably the first full course in soil mechanics in Canada in 1932. In 1939/40 he attended Harvard University and studied under Arthur Casagrande.

After returning to the University of Alberta, he started a soils engineering laboratory and became a leading authority in soil mechanics and foundation engineering. In 1943 he started the first graduate program in Geotechnical Engineering in Canada. In following years, Bob Hardy held positions as Professor, Chairman of the Department of Civil Engineering, and Dean of Engineering. He retired from the University of Alberta in 1959 to devote full time to his consulting practice, albeit still as a part-time professor.

In keeping with the tradition in civil engineering departments, his research sought solutions to regional problems in the areas of muskeg behaviour, frost action and its prevention, swelling clay and clay shale, oil sand, and pile behaviour.

Bob co-founded his consulting firm in 1951. It was renamed R.M. Hardy & Associates Ltd., in 1954, and Hardy Associates in 1978. The company engaged in foundation engineering and design, construction of earth dams and airports, investigation of structural failures, muskeg and permafrost terrain constraints, pipeline construction, and mining of tar sands. Important projects included the collapse of the Peace River suspension bridge on the Alaska Highway, failure of the UGG grain elevator in Thunder Bay, the Review Board for Syncrude, and tailings dams for Suncor, and the use of draglines in open-pit mines.

Of his working style, George Ford wrote: “Hardy could talk to a staff member, read an article, plot a graph, answer the telephone, write a letter, and effectively deal with the problem at hand all at one time.”

(*Sons of Martha, 1988).*

Dr Hardy received many honours and awards that included the R.F. Legget Award from the Canadian Geotechnical Society, Fellowship in the Royal Society of Canada, and appointment as an Officer of the Order of Canada. He received honorary doctorates from three universities.

This outline of Robert Hardy’s contributions to Canadian geotechnical engineering was edited by J. Graham from a longer article by Murray Harris in *Geotechnical Engineering In Canada: An Historical Review* – see http://www.cgs.ca/lectures.php?lang=en , pp.23-28. The original document, which arose from a series of taped interviews with pioneers of geotechnical engineering in Canada, was published by BiTech Publishers, Richmond BC, at the time of the Golden Jubilee (50th) Conference of the CGS in Ottawa in 1997. jg 3 November 2012

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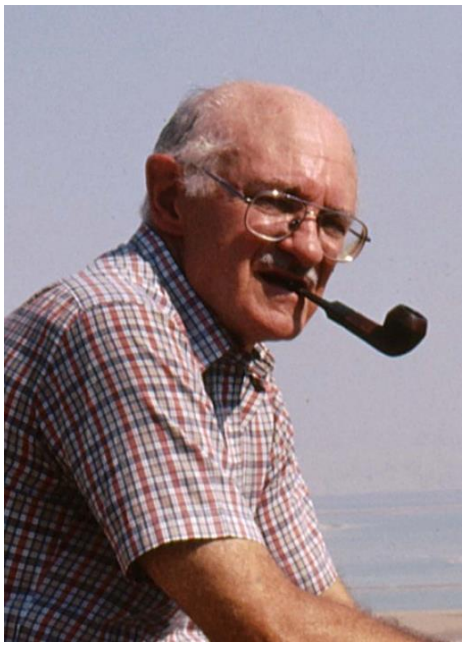
Graham Harris (1937 – 2014)



Graham Harris, an engineer with broad experience in the practical application of geotechnical engineering to large projects, died suddenly in Bedeque, Prince Edward Island, on July 9, 2014 aged 77. His long career in his chosen field was complemented by significant achievements as a historian and author.

Graham was born in Coventry, England. At school, he excelled in both academic studies and sports, and as a result, received a university scholarship. Following two years of National Service with the British Army, Graham enrolled in Civil Engineering at Imperial College, London. He graduated in 1961. After one year of experience in dam construction in Sierra Leone, he returned to Imperial College for post-graduate studies and received a DIC in Soil Mechanics and Foundation Engineering in 1963.

Graham worked briefly in the U.K. after graduation and then, with his wife Susan, emigrated to Canada to join Geocon Ltd, where he worked for eight years, initially as a geotechnical engineer and then as manager of Geocon's offices in Fredericton and Halifax.

Graham decided to diversify his experience in the geotechnical field, particularly in the mining industry. In 1973, he and Susan moved to South Africa, where Graham joined Bateman Engineering Group as a senior geotechnical engineer. In the next 14 years, he gained considerable widely-based experience in applying geotechnology to large mining and industrial projects. Significantly, one of his projects provided motivation for his later interests and achievements as a historian. Graham returned to Canada in 1987 and a year later joined Suncor Ltd in Fort McMurray, Alberta to deal with the special challenges associated with management of tailings from oilsands.

Graham's retirement from his professional career in 1993 was followed by a new chapter in his life, this time as a historian on scientific matters and an author of books and articles on other topics. As a historian, two books reflected his geotechnical experience. *Oak Island and its Lost Treasure*, co-authored with geotechnical engineer Les MacPhie, describes major subsurface investigations carried out on the island over many years. Graham's work with Bateman on the construction of a potash plant near the Dead Sea led to *The Destruction of Sodom and Gomorrah: a Geotechnical Perspective*, co-authored with geologist Tony Beardow, and published in 1995 in the Quarterly Journal of Engineering Geology. The paper notes that the cities were built on an alluvial plain bordering the Dead Sea and made a persuasive case they were destroyed by liquefaction of the alluvium triggered by a severe earthquake around 2350 BC. Following publication, the BBC invited Graham to participate in the production of a documentary in its Ancient Apocalypses series. This led in turn to a new book to be published in 2015, *The Destruction of Sodom – a Scientific Commentary*.

Graham's publications on other topics included several books of general interest including; *Treasure and Intrigue: The Legacy of Captain Kidd,* 2002; *The Golden Reef of Sir William Phips,* 2005; *The Smuggler's Revenge and Other Curious Tales*, 2008; and *Murder at the Coliseum,* 2010.

Graham was known for his warm personality, a dry wit and as a raconteur. His achievements as engineer, historian and author set him apart from most geotechnical engineers. He is survived by Susan, his wife of 48 years.

(H.L. (Les) MacPhie and Fred Matich)

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Beverley (Bert) Girling Hoare (1924 – 2007)

Dr. Bert Hoare, a leading Canadian expert in management of mine tailings facilities, died in Pembroke ON in December 2007 after a period of deteriorating health. With his death, the mining industry and the geotechnical engineering profession in Canada lost a notable pioneer.

Bert Hoare served as a pilot in the Royal Canadian Air Force between 1943 and 1945. After returning from war service he attended Queens University, Kingston and gained a Bachelors Degree in Engineering in 1949. Between 1949 and 1965 he obtained broadly-based experience in the mining industry, working with Falconbridge, Denison, Iron Ore of Canada, Alcan and the Cleveland Cliffs Iron Company. During this time, he held senior positions in engineering, operations and management. His experience led him to conclude that management of mine tailings facilities needed to be based on sound engineering principles. In his characteristically thorough manner, he enrolled at the University of Waterloo, where he graduated in 1968 with an MASc in Civil Engineering (water resources), followed in 1972 with a PhD degree in Civil Engineering. (His Ph.D. thesis is available in electronic form at https://uwspace.uwaterloo.ca/ with URL http://hdl.handle.net/10012/8389.)

Dr. Hoare's doctoral thesis, *The Disposal of Mine Tailings Material* is one of the first to discuss the overall management of tailings storage facilities in the mining industry. It effectively combines his practical experience with theoretical principles which have become recognized as essential to the planning, design, operation and closure of tailings facilities in ways that are safe, environmentally acceptable, and efficient. Significantly, he recognized at an early stage, the importance of management of both natural and process-affected water associated with such facilities, as well as the engineering and chemical characteristics of tailings solids that are deposited hydraulically. His research included field and laboratory investigations of existing tailings deposits to determine properties such as gradation, permeability, strength and consolidation. It also advanced the application of geotechnology to the design of tailings storage facilities.

For designers, he identified the various options that were available at the time for storage of tailings, and also means for their initial comparative evaluation based on the *returns ratio* (the number of tons of tailings stored per cubic yard of retention dam volume). He also contributed directly to the mining industry on ways of ensuring dam safety and regulatory compliance; deposition by subaerial methods; new or improved techniques such as the use of hydro-cyclones for construction of retention dams; and monitoring performance to verify design expectations.

Following his second period of university studies, Dr. Hoare joined the Federal Energy Resources and Mines Department in Ottawa and worked on preparing manuals that proved specially valuable to the mining industry. His expertise became widely sought after as a consultant and in 1976 he formed the company Mine Tailings International Ltd. whose clients included mining companies across Canada, the United States, and in countries such as Chile, Brazil and Guyana. Dr. Hoare stressed the importance of inspecting tailings operations first-hand and meeting with mine representatives and designers. Because of his varied earlier career, he had an easy rapport with both groups. He made presentations on tailings-related topics to regulatory and mining organizations in Canada and the U.S.A., and was known for his integrity, experience, engineering judgement, and particularly for his ability as a mentor.

Bert Hoare was survived by his wife Eveline and siblings William Hoare, Sheila Thomson and Alicia Brown.

Dennis E. Netherton, P.Eng. and M.A.J. (Fred) Matich, P.Eng. August 2015

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T. Cameron Kenney (d.2008)

Family, friends and colleagues of T. Cameron Kenney, Professor Emeritus, University of Toronto, were saddened by his death on Tuesday, August 19, 2008 at the Princess Margaret Hospital, Toronto, at the age of 77. His love and devotion to his family will be deeply missed.

Professor Kenney was a Canadian Geotechnical Society (CGS) member for many years and contributed much to the Society. Kenney was awarded several honours by the Canadian Geotechnical Society; including the R. M. Quigley Award, the G. Geoffrey Meyerhof Award, and he was a CGS Cross-Canada Lecturer. In addition, he was awarded a Fellowship of the Engineering Institute of Canada (FEIC). Kenney was also the President of the CGS in 1975-1976.

Cameron grew up in St. Lambert, Quebec, attended McGill University graduating in Civil Engineering (1953). He was awarded an Athlone Fellowship and spent the next 3 years at Imperial College, University of London, England receiving a D.I.C. (Soil Mechanics) and Master of Science, Engineering. On returning to Canada he worked at the engineering firm of H.G. Acres Ltd., Niagara Falls, Ontario where he spent 4 very productive years working on many interesting projects in which Acres was involved. In 1960 Cameron left Acres and became a distinguished researcher with Dr. L. Bjerrum at the Norwegian Geotechnical Institute, Oslo, Norway, where he spent 6 rewarding years. The thesis for his PhD from the University of London, England was based on his work at the Institute.

In 1967 Cameron accepted a position at the University of Toronto where he became the Chairman, Department of Civil Engineering, 1968-1974. He was a dedicated and inspiring teacher to his many students over the next 30 years as well as being very involved in research in the field of geotechnical engineering, and a specialist consultant on many important projects.

While many professors have very good relationships with their students, Professor Kenney was particularly well-liked. At a eulogy for Professor Kenney, there were many fond memories recalled by former students. One former student stated that while Professor Kenney *"had a passion for teaching us the fundamentals of soil mechanics and to exposing us to the best resources available for us to learn, his manner of teaching, researching and living, taught us many lessons that were non technical in nature."* Another stated that *"He taught me to think twice, and speak once."*

Upon retirement Cameron and his wife Margot spent their summers at their beloved "Cedar Cove" cottage on Lake Temagami where he was able to put to good use his engineering skills. He seemed to have an ongoing program of upgrading projects at the cottage which gave him great pleasure and enjoyment.

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Earle Jardine Klohn (1927 – 2013)

Earle J. Klohn was born in Winnipeg in 1927 to Frank and Florence Klohn. The family moved to Edmonton in 1937.

Earle graduated from the University of Alberta in Civil Engineering in 1950 and moved to California to work for O.J. Porter and Company. His time there was short-lived because the outbreak of the Korean War made all men of Earle's age eligible for service in the US Army, US citizens or not.

After one year in California, Earle returned to Edmonton to work for Dr. Bob Hardy in the Yukon. During his time there, he enrolled in a Master's program in Civil Engineering, again at the University of Alberta, and specialized in soil mechanics under Dr. R.M. Hardy. In a recognition of these early ties to the University of Alberta, and the importance of mine tailings which occupied much of his career, a scholarship was established in his name at the University of Alberta in 2010 to promote tailings research.

Earle Klohn won many awards for his contributions to geotechnical engineering, including the Leggett Award which was presented to him by Dr. Leggett personally in 1990. After completing his Master's degree, he moved to Vancouver to join Charlie Ripley in his new firm, Ripley and Associates. That firm is now (2015) called Klohn Crippen Berger Ltd. Earle was to be the longest serving President of the firm and was instrumental in establishing it nationally and inter-nationally. However, he was always an engineer at heart; primarily in water and tailings dam design. He designed some of the most challenging dam projects in Western Canada. One was the E.B. Campbell Dam in Saskatchewan which was the subject of a technical paper in the Canadian Geotechnical Journal in 1967. He worked on the design of many dams both as designer and reviewer.

Earle Klohn made perhaps his greatest impact in geotechnical engineering in tailings dam design. He introduced engineering design concepts to tailings dams in Western Canada in the 1960s. He was also a leader in the seismic design of tailings dams. He was introduced to the subject by Arthur Casagrande after the 1964 great Alaska earthquake when they had a joint assignment to establish setback distances for numerous pulp and paper mills from potential liquefaction flowslides in deltas along the coast of British Columbia. The most comprehensive seismic design of a tailings dam at that time was the Brenda Dam at Peachland in the interior of British Columbia which was documented at a Missouri Rolla case histories conference in 1984. Earle also designed the foundations for many large pulp and paper mills for the H.A. Simons group. His long relationship with Simons, ultimately culminated in the merger of their civil engineering group with Klohn Leonoff to become Klohn Crippen.

Earle was a dedicated family man with three children. He was also an athlete who enjoyed golfing most of his life. To the younger engineering members of his firm, he was always kind, helpful, and decisive.

Bryan D. Watts, August 2015.

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Robert Ferguson (R.F.) Legget (1904-1994)

Robert Legget was born in Liverpool, England in 1904. He graduated from the University of Liverpool with a B.Eng. in Civil Engineering and Geology in 1925 and an M.Eng. in 1927. After graduation, he joined a firm of consulting engineers working on design and construction for the Lochaber power project in Scotland.

Dr. Legget came to Canada in 1929 and worked for the Power Corporation and Canadian Steel Sheet Piling Company in Montreal. After 11 years in construction, he made a career change to teaching, first at Queen's University and then at the University of Toronto. He was a superb teacher, whose lectures were sprinkled with practical examples from his own experiences or from published case histories. In 1939, he published his first major book *Geology and Engineering* (3rd edition 1983), a book that had a major influence on the early development of geotechnical engineering in Canada. Along the way, there were another dozen major books and four others where he acted as stimulator and editor. After World War II, he was among the very first to introduce the teaching of soil mechanics in Canadian universities.

In 1947, Dr. Legget joined the National Research Council of Canada (NRC) as the first Director of the new Division of Building Research (DBR) Under his guidance, the DBR grew rapidly to a staff of 90 by 1953, providing a research and information service for the Canadian construction industry. Two special needs were rapidly identified – the need to revise the original National Building Code from 1941, and to provide technical support to the national housing agency CMHC. In developing these programs, Dr. Legget encouraged his staff to take an active part in professional and technical societies and to prepare publications that could be easily understood and applied by busy practitioners.

While still at the University of Toronto, his consulting projects had led to a lifetime interest in the challenges of building in the North and the development of a team of researchers dealing with the character and occurrence of permafrost. This work eventually led to the Permafrost Map of Canada and many papers dealing with design and construction in the north.

Robert Legget's opportunity to influence the development of geotechnical engineering in Canada came through his Chairmanship of the NRC Associate Committee on Soil and Snow Mechanics, later named the Associate Committee on Geotechnical Research (ACGR). Initial work was on tracked vehicles, clearly a wartime interest, but it expanded rapidly to permafrost, muskeg, soil, snow, ice, expansive clays, highly sensitive Champlain Sea clays, and soil-structure interaction.

Through the ACGR, he invited all known workers in soil mechanics in Canada to a two-day meeting in Ottawa in 1947. (Proceedings of this first Canadian Soil Mechanics Conference can be found at http://members.cgs.ca/documents.php in the Online Member Resources section of the CGS website.) Representatives from the various regions were encouraged to form local groups of

(Continued on following page.)

practitioners and researchers, and these eventually formed the nucleus of the Canadian Geotechnical Society. Robert Legget's commitment to writing about and sharing his experience led in 1961 to the Canadian Geotechnical Journal under its first editor, Victor Milligan. His initiatives in encouraging the NRC to fund geotechnical research in the universities eventually produced the Natural Sciences and Engineering Research Council of Canada.

Robert Legget was the last survivor of the eight Canadians registered for the 1st International Conference on Soil Mechanics and Foundation Engineering at Harvard University in 1936. At the conference, he met Terzaghi and other engineering leaders from Canada, the USA and other countries. His ongoing involvement in the ISSMFE (now ISSMGE) as Vice President for North America led to the International Conference in Montreal in 1965. The conference was a technical and financial success, with the profits essentially funding the early years of the Canadian Geotechnical Society, considered by many others as an ideal combination of multidisciplinary collaboration between practical and academic research. When he retired from the NRC in 1969, the Society established the R.F. Legget Award (now Medal) in his honour.

Robert Legget is also remembered for his thorough research on the planning, construction and financing of the Rideau Canal between Ottawa and Kingston, and his admiration for the work of Lt. Colonel John By, founder of Bytown, now Ottawa. This was documented in his book *Rideau Waterway,* published in 1955, with a second edition in 1986. After retiring in 1969, he revived his contributions to engineering geology and renewed his interests in engineering history. Fortunately, his papers have been sorted catalogued and stored in the National Archives of Canada. Information about this material can be found at http://www.cgs.ca/pdf/heritage/Robert%20F%20Legget%20-%20Documents.pdf.

Robert Legget`s many contributions to the engineering profession and its history were recognized with twelve honorary degrees, fifteen special awards from professional and learned societies, and appointment as a Companion in the Order of Canada.

Perhaps his greatest contribution to the Canadian geotechnical community was his foresight and sound organizational ability which drew together interdisciplinary workers from coast to coast into what evolved as the Canadian Geotechnical Society. In 1989, when he accepted the Royal Bank Award for *'outstanding accomplishments contributing to human welfare and the common good'*, he said: "In my six decades here, I have grown to love this country and land. And I find it passing strange to be receiving this Award for what I am said to have given to it when I know that I have received far more from Canada than I have ever given in return".

This outline of Robert Legget's contributions to Canadian geotechnical engineering was edited by J. Graham from a longer article by C.B. Crawford in *Geotechnical Engineering In Canada: An Historical Review* – see http://www.cgs.ca/lectures.php?lang=en . Carl Crawford was a successor to Dr. Legget as Director of the DBR. The original document, which arose from a series of taped interviews with pioneers of geotechnical engineering in Canada, was published by BiTech Publishers, Richmond BC, at the time of the Golden Jubilee (50th) Conference of the CGS in Ottawa in 1997.

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Donald Hugh MacDonald (1922 – 2007)

Family, friends and colleagues of Don MacDonald are saddened by his death at St. Michael's Hospital, Toronto on November 2, 2007. His loss is marked as one of the last of the early significant figures in the development of geotechnical engineering in Canada where his support in the formative years of the Canadian Geotechnical Society and the Tunnelling Association of Canada was invaluable. Throughout his career, he has also been widely recognized for his significant contributions to the design and construction of major civil engineering works across Canada and overseas; his papers on the technical issues involved in these projects still form part of current engineering practice.

Don MacDonald was born and educated in Ontario, graduating in civil engineering from the University of Toronto in 1945 (B.A.Sc.). He subsequently took graduate work at Cornell University and Imperial College of Science and Technology (D.I.C.), finishing with a Ph.D. from the University of London. (Arising from his doctoral studies was the notable paper on "The allowable settlement of buildings" written jointly with Professor A.W. Skempton which then created widespread interest and discussion and is still widely referenced to this day.)

Except for four years spent on the design and construction of Toronto's first subway (Yonge Street) working partly under the guidance of Dr.R.F Legget, his entire career since 1955 was spent with H.G.Acres & Co.,Ltd., subsequently Acres International Limited, where he worked in a variety of technical and executive roles including serving as Vice-President and Director of Acres International Limited and its related companies. In his association with Acres Limited, he has been involved in numerous hydro-power and water resource projects in all parts of Canada and in many countries abroad. Noteworthy among these are the Churchill Falls project in Labrador, Mica Dam in British Columbia, the Nelson River project and the Red River Floodway structures in Manitoba, the thermal station in St.John and the Thorold rail tunnel below the Welland Canal. Of particular technical interest are the innovative engineering solutions, largely unprecedented to that time, used in the design and construction of dykes on permafrost foundations in northern Manitoba and in the construction of a seepage cut-off in a deep irregularly shaped buried valley below the Lower Notch Dam in northern Ontario.

His technical excellence and his service to the engineering profession has been marked by many professional honours and awards. These include election as a Fellow of the Engineering Institute of Canada and of the American Society of Engineers in 1973, the award of the Association of Professional Engineers of Ontario Gold Medal in 1978 and, in the same year, the R.F.Legget Award of the Canadian Geotechnical Society (its highest award.) He was also honoured in 1989 as a member of the Hall of Distinction of the Engineering Alumni of the University of Toronto.

In addition to these awards, he has served as one of the initial Associate Editors of the Canadian Geotechnical Journal, founded in 1965; as the first President of the fledgling Tunnelling Association of Canada in 1980-81 and has been active in the International Commission on Large Dams and the International Society for Soil Mechanics

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and Foundation Engineering where he represented the Society in the UNESCO Working Group on Seismic Phenomena associated with Large Reservoirs. In public service, he served as Chairman of the Board of Governors of the Niagara College of Applied Arts and Technology and as a Board Member of the Shaw Festival, Niagara-on–the-Lake.

This resume provides but a partial and inadequate sense of Don MacDonald. In all his long and productive career, his intelligence and competence was always balanced by his courteous behaviour to both clients and colleagues. Modest by nature, considerate to all, friend and mentor to many, he epitomized the words of the poet, Alexander Pope –

"--- Friend to truth; of soul sincere,
In action faithful and in honour clear;
Who broke no promise, served no private end,
Who sought no title and who lost no friend."

Don MacDonald will be missed by many. The Society extends its sympathies to Don's wife Barbara, their children and the extended family.

Victor Milligan, 2008

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Norman McCammon (1935 –2009)

It is with deep sorrow that we share the news of Norman McCammon's sudden passing. Our esteemed colleague and friend passed away on June 11 in North Vancouver, BC.

Norman was born in Belfast, Northern Ireland on September 28, 1935. He moved to Canada in 1961, joining a developing geotechnical engineering company, Golder Associates, in its Toronto office. Norm, as he was known to many, had an extensive professional career focusing on the geotechnical engineering aspects of a wide range of civil and mining projects. With Golder Associates, Norm moved to Vancouver in 1965, where he spent 44 years. He was first a friend to everyone he met, and he assisted, helped, mentored, and in his own way, cajoled all the young engineers that he worked with. Norm was instrumental in the growth and development of the Geotechnical Division in Golder Associates' Vancouver office; many of our current leaders "grew up" under his careful tutelage.

Norm was a pillar of the geotechnical community in Vancouver and Canada. His council was regularly sought on large, complex infrastructure projects as he had the ability to see the issues, understand what was needed to achieve the client's goals, and communicate this to the project team. To each endeavour, large or small, local or international, Norman brought his technical expertise, his quiet leadership, and his consideration for others.

Norm was a Principal, a Professional Engineer, and a key figure in several professional organisations. He was past editor of the Canadian Geotechnical Journal and had considerable influence in the preparation of the Canadian Bridge Code, an acknowledged first rate publication used in Canada and throughout the world.

Friends and colleagues called Norm "the gentleman consultant". And he was: his word was his bond. This, the measure of the man, is his legacy to the geotechnical engineering community.

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George Geoffrey (Georg Gottfried) Meyerhof (1916-2003)

The many friends of George Geoffrey Meyerhof CM, PhD, DEng hc, DSc hc, DrIng hc, DesSc hc, LLD hc, Hon FICE, FEIC, FASCE, FRSC, FCAE, PEng will be saddened to hear of his death on January 2, 2003, age 86, in the QEII Health Sciences Centre, Halifax.

Dr. Meyerhof was born May 29, 1916, in Kiel, Germany. He was Head of the Civil Engineering Department and Dean of Engineering at the Technical University of Nova Scotia in Halifax for many years and was latterly emeritus Professor of Civil Engineering, Dalhousie University. He was the son of the late Professor Otto Meyerhof, Nobel Laureate in Physiology.

After graduating with a BSc degree from London University in 1938, he worked for several years with consulting structural engineers in England and subsequently obtained a PhD degree in engineering. In 1946 he joined the staff of the Building Research Station near London, England, where he carried out extensive research on soil mechanics and foundation problems. For his distinguished contributions in this field, the University of London awarded him the degree of Doctor of Science in 1954. After coming to Canada in 1953, Dr. Meyerhof became Supervising Engineer in the Montréal Office of the Foundation of Canada Engineering Corporation where he was in charge of the design of various buildings, bridges and other civil engineering structures.

Dr. Meyerhof was the author of more than 200 papers, and a book of selected papers on structural and soil mechanics subjects which have been published by scientific and engineering societies in various countries. His work combined theory, field observations and construction practice in a way that has had significant influence on foundation engineering practice in Canada and overseas. In recent years (1998), he prepared a short booklet "Memories of a Civil Engineer in World War II" in which he describes his studies and early professional life in England during the period of most active growth in soil mechanics. The Canadian Geotechnical Society has recognized the importance of Dr. Meyerhof's work by naming the annual award of its Soil Mechanics and Foundations Division the 'Geoffrey G. Meyerhof Award'. In 1974 he received the most senior award of the Society, the R.F.Legget Award. He was the first President of the Society in 1972-1974.

Dr. Meyerhof was a Fellow of the Royal Society of Canada, a Fellow of the Canadian Academy of Engineering and of many other scientific and engineering societies in Canada and abroad, and a registered professional engineer. He was a founding member of the Halifax Grammar School. In 1999 Dr. Meyerhof was honoured by being appointed a member of the Order of Canada for distinguished service in geotechnical engineering. The Association of Professional Engineers of Nova Scotia awarded him their most prestigious recognition, the F. H. Sexton Award, for his exceptional professional

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engineering services rendered to the Province of Nova Scotia. He was awarded the year 2000 Honorary Fellowship of the Institution of Civil Engineers (United Kingdom) for his world-renowned contributions to geotechnical engineering.

He received the Centennial Medal of Canada, the Queen's Silver Jubilee Medal, and the Queen's Golden Jubilee Medal for outstanding service to Canada. In addition, he has received the Duggan Medal and the Julian C. Smith Medal of the Engineering Institute of Canada, the Engineering Award of the Association of Professional Engineers of Nova Scotia, and the Karl Terzaghi Award of the American Society of Civil Engineers for his outstanding contribution to foundation engineering. He was a Council Member of the Engineering Institute of Canada, a Council Member of the Institution of Civil Engineers of Great Britain, a Terzaghi Lecturer of the American Society of Civil Engineers, a Buchanan Lecturer of Texas A&M University, and a Hardy Lecturer of the Canadian Geotechnical Society.

The Technical University of Aachen, Germany, awarded Dr. Meyerhof the honorary degree of Doctor of Engineering, and the University of Ghent, Belgium, awarded him the honorary degree of Doctorate of Science. He was also awarded the honorary degree of Doctor of Engineering from the Technical University of Nova Scotia, as well as honorary Doctor of Science degrees from McMaster University, Hamilton, and Queen's University, Kingston. He received the honorary Doctor of Laws degree from Concordia University. Dr. Meyerhof is survived by his wife, Ingrid Goering Meyerhof; two sons, Thomas (Dorothy), Ottawa, Peter (Mary Anne), Sonoma, Calif.and their son, Geoffrey. He is also survived by his sister; Bettina Emerson, Seattle, Wash.; and brother, Walter, Menlo Park, Calif. He was predeceased by his first wife, Elisabeth Meyerhof.

(An original version of this memoir appeared in the Halifax Herald, 5 January 2003.)

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Victor Milligan PEng, FCAE, FRAE, FEIC

There are plenty of things to remember about Victor Milligan - as an athlete, an engineer, an entrepreneur and a founder of Golder Associates, a Canadian geotechnical and environmental consultancy that has 7,000 employees in more than 30 countries.

But three things stand out: his role in Roger Bannister's Miracle Mile in Vancouver in 1954; the employee-owned corporate model that he developed as an ambitious and impoverished engineer; and his Irish charm, always kept on the right side of blarney.

Milliganisms are legendary. A decisive and energetic man, who hated dithering, he would invariably close long discussions about the best way to solve an engineering problem with "Just do it," a phrase he was using decades before Nike turned it into an advertising slogan.

His most famous mantra, however, was the punchline for his management theory about the importance of letting employees have a stake in the company.

He argued that you would wash and care for a car you owned, but - and here he would crank up the lilt in his voice, rev up the wattage in his twinkle, pause, and ask - "But have you ever seen anybody wash a rental car?" Point taken.

"He was my colleague, my friend and my mentor and I followed him all my life. You couldn't meet a more extraordinary person," said engineer John Seychuk, a founder of Golder Associates and a colleague for more than 50 years.

"He was an excellent engineer and an entrepreneur, but what people will remember is his personal side," said Rick Firlotte, now president of Golder. Initially, Mr. Firlotte was attracted by the technical challenges of Mr. Golder's engineering projects, but he stayed because of the collegial, supportive culture. "He was a natural leader, so people wanted to follow him," he said.

Mr. Milligan was born in the Crumlin Road area of Belfast, Northern Ireland, on Remembrance Day, 1929, the only child of Albert Milligan, a policeman with the Royal Ulster Constabulary and his wife, Margaret. A tall skinny kid with gangly legs and knobbly knees, Victor won a place at the Royal Belfast Academical Institution, the first person in his family to get a secondary school education. At Inst, as it was called, a master called out the names of the new boys and paused after intoning "Milligan, Victor," and enquired about his lack of a middle name.

"I was too poor to have one," was the cheeky response, but, as he later admitted, "I wasn't cheeky for long." Victor was the first scholarship boy to be named head boy of Inst.

He found his talent as an athlete when he won the mandatory cross-country run for the junior boys in record time. One of the people who noticed his prowess was Franz Stampfl, the Austrian skier and javelin thrower, who had fled his homeland in 1936, and was on contract to the Northern Ireland government as a track and field coach.

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Mr. Stampfl, who would later coach Roger Bannister, persuaded Victor to embrace running and then talked the school into sending some promising boys to compete in the British Public Schools Championships in London in 1948. Victor won his race, becoming the first boy from Northern Ireland to win the mile.

After Inst., he went on scholarship to Queen's University, Belfast, earning a bachelor of science in 1951 in civil engineering and a masters in soil mechanics (now called geotechnics) in 1952, the same year he began working as an assistant engineer at James Williamson and Partners in Glasgow. All the while, he kept on running, winning the Northern Ireland gold medal for the 880 yards in 1950.

An injury kept him out of the Helsinki Olympics, but he was back in form as captain of the Northern Ireland team at the British Empire Games in Vancouver in 1954, where English runner Roger Bannister and his Australian rival John Landy, both of whom had recently run a mile in less than four minutes, met on the track in what was promoted as the miracle mile. Mr. Milligan had come second in a qualifying heat two days earlier, which guaranteed him a place in the final on Aug. 7, before 35,000 spectators, including the Duke of Edinburgh.

In the final lap, Mr. Landry was in the lead, the crowd was roaring, and as he glanced over his left shoulder to spot his English rival, Mr. Bannister unleashed his famous kick and passed him to break the ribbon at 3:58.8. Mr. Milligan, who ran the fastest race of his career, came in fourth with a time of 4:04.8. Fifty years later he told the Vancouver Sun that "we all knew that Bannister and Landry were the titans, and we were the mortals ... but our target was to make a national team ... so we could go out and see the world ... "

By then Mr. Milligan had won a George VI Memorial Scholarship for study abroad, giving him the financial backing to become a research fellow at Purdue University in Indiana, a top engineering school. There, he was so smitten by another student, Mary Ann Pelikan, that he asked her to marry him on their first date. She declined.

Then, on a climbing trip with a friend in the Teton Mountains in Wyoming, he fell on his head, landing, after a drop of at least 75 feet, on loose rocks before tumbling into a snow drift. He suffered a skull fracture, which left him in a coma for several days. When, still partially paralyzed, he opened his eyes and saw Ms. Pelikan sitting by his beside, he proposed again, insisting this was her last chance. Mordant humour aside, she agreed.

The accident ended both his academic and his running careers. He and Ms. Pelikan were married during his long recovery and eventually became the parents of two sons, Jeffrey, born in 1958, and Michael, who arrived two years later.

His wife died of a brain tumour on Mother's Day in 1988.

Two years later he married Adrey (Babs) Morrow, a woman who had like him been born in Belfast. That marriage also ended sadly when she died of multiple myeloma in 2003. Mr. Milligan married for a third time in 2006 when he wed Donna Tigert, a math teacher and long-time family friend.

Postwar Canada was booming, with a huge demand for roads, bridges and other infrastructure. Mr. Milligan went from Purdue to Montreal, where he worked as a technical officer for Imperial Chemical Industries, before shifting to Geocon Ltd. as a district engineer. Soon, he was transferred to Toronto to work on the Don Valley Parkway, and began building his international expertise in banks, dams, bridges and other types of engineering.

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And as he worked he talked, especially with colleagues Mr. Seychuk, district soil engineer for Geocon, and Larry Soderman, a geotechnical engineer with the Ontario Department of Highways, about improving engineering standards and founding his own firm.

Mr. Milligan, then 30, and the father of a toddler and an infant, put words into action with Hugh Golder, an English engineer who had immigrated to Canada in 1959 to work as an independent consultant on, among other projects, a proposal to build a fixed link between Prince Edward Island and the mainland - an engineering feat that Golder Associates helped build nearly 40 years later. Mr. Golder had the name, the experience, and the capital to front a company, and Mr. Milligan had the thrust.

Together, they formed H.Q. Golder and Associates in 1960. There were five employees in a two-bedroom apartment at Jane and Bloor Streets in the west end of Toronto, above a branch of the Bank of Nova Scotia.

Originally Mr. Golder had 90 per cent of the shares. He suggested that when he was ready to retire, he would be willing to sell his shares to Mr. Milligan. Of course, by then, if Mr. Milligan worked "his tail off," the shares would be worth considerably more than their initial value of approximately zero. That is when Mr. Milligan came up with his car washing metaphor, based on three premises: People work harder and care more about something they own; young people have time, energy and cutting edge training, but little money; older people want to work less and have a retirement cushion.

So, they agreed that an employee who had passed a peer review process should be invited to be an associate and entitled to buy shares in the company at a good rate, and when that employee reached age 50 (now 55) he or she would sell the shares back to the company at a staggered annual rate, gradually reducing the shares to zero by the company's mandatory retirement age of 65. In that orderly way, succession and ownership would pass from one generation to the next.

As an engineer, Mr. Milligan was both an entrepreneur and a management guru. He believed in the strength of loose bonds and local partnerships, especially with academic engineers, who were interested in testing practical applications of their theoretical models and in finding good jobs for their brightest students.

The firm grew exponentially. Along the way, Mr. Milligan wrote more than 50 technical papers and founded and edited the Canadian Geotechnical Journal.

Following his own model, Mr. Milligan began selling his shares back to the company and retired in 1994 when he turned 65. Golder and engineering were in his blood, however, and he continued to work as a consultant. His final years saw him lauded with several industry and academic awards, including two honorary degrees and several medals.

Early in March, Mr. Milligan and Donna were in Africa visiting Timbuktu and other ancient capitals.

He woke early the day they were supposed to leave Mali for Ghana, complaining of indigestion. Eventually, he fell asleep with his wife sitting in a chair by his bedside. When she tried to rouse him, he didn't respond. Despite the complications and stresses of dealing with his abrupt death in a foreign country, Mrs. Milligan took some solace from her husband's peaceful demise, saying, "If he had to die, that would certainly have been a way of his choosing."

Victor Milligan was born in Belfast, Northern Ireland, on Nov. 11, 1929. He died on March 4, 2009, of an apparent heart attack in Mali, West Africa. Mr. Milligan, who was 79, leaves his wife Donna, sons Jeffrey and Michael, a grandson and his extended family.

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Pierre Morin (1952 - 1999)

Pierre Morin nous a quittés soudainement le 22 juillet 1999 dans sa quarante-septième année. Il était né le 21 décembre 1952, à Angoulême, où une mutation avait amené son père, ingénieur militaire. Cinquième d'une famille de six enfants, il passa son enfance à Grenoble où il acquit un profond goût pour la nature, la montagne et les randonnées.

Suivant le chemin tracé par deux de ses frères, il fut reçu brillamment à l'Ecole Nationale Supérieure des Mines de Paris (promotion 1975). Son travail de fin d'études (option Génie Civil) portait sur la résistance à l'arrachement d'ancrages injectés dans les sables de Seine à Mantes-la-Jolie, en collaboration avec le Laboratoire Central des Ponts et Chaussées (LCPC) et le Laboratoire de Mécanique des Sols du CNAM. Il marquait ainsi d'un premier signe un penchant pour la Mécanique des Sols. À sa sortie de l'Ecole, il effectua son service militaire en tant que scientifique du contingent à l'Ecole de l'Air de Salon-de-Provence et prodigua alors ses premiers cours en Résistance des Matériaux.

En 1976, dégagé du service national, il entamait une thèse de docteur-ingénieur au LCPC, qu'il soutint en 1979. Son sujet concernait l'étude du comportement avant rupture du remblai expérimental sur versant de Sallèdes (Puys-de-Dôme). Il a réalisé ce travail au sein du Groupe d'Etude des Talus du LCPC où il fit preuve d'un grand esprit de synthèse dans l'analyse de deux ans de résultats expérimentaux. Ses interprétations et ses calculs de stabilité prévisionnels font encore référence aujourd'hui et ont été utilisés par la suite pour d'autres remblais sur le même site.

Après la thèse, ce fut le départ pour le Canada. Jeune ingénieur, il fit ses premières armes à Montréal dans la Société Terratech Ltee, bureau d'études privé. De 1979 à 1981, il participait aux recherches sur la pression de préconsolidation des argiles sensibles de la mer Champlain sous la direction de Serge Leroueil. Ces travaux ont largement contribué à faire avancer la compréhension et la quantification des phénomènes affectant le comportement des argiles Champlain, sols de fondations assez répandus au Québec. De 1981 à 1982, il réalisa diverses études de Mécanique des Sols pour le compte de l'Hydro-Québec et de la Société d'Energie de la Baie James.

Mais c'est le métier de chercheur et d'enseignant qui finalement le séduit. En 1982, il rejoignait l'Université Memorial of Newfoundland - St. John's à Terre-Neuve, pour devenir professeur (Assistant Professor) à la Faculté de Génie, dans l'équipe de Génie Civil. Enseignant, il touchera à tout et enseignera tout dans le domaine de la Géotechnique : depuis la Mécanique des Milieux Continus et la Résistance des Matériaux, jusqu'à la Mécanique des Sols la plus avancée (environnement et amélioration des sols), en passant par le calcul des ouvrages, le Génie routier, la Mécanique des sols sous-marins et l'hydrologie. Il excellera aussi dans le Génie des Fondations. En 1986, il fut promu Professeur associé (Associate professor) dans l'équipe de Génie Civil et Environnemental. En janvier 1996, il initiait son dernier cours à l'Université qui portait sur l'Interaction sols-contaminants.

Pendant cette période universitaire, il supervisa de nombreuses recherches. On citera notamment ses travaux sur les propriétés géotechniques des sédiments marins au large de Terre-Neuve et en mer du Labrador, sur la caractérisation mécanique de la glace flottante et de la glace projetée à l'aide d'essais

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triaxiaux et pressiométriques, sur le transport de contaminants en milieux poreux et/ou fracturés, sur les propriétés hydrauliques des membranes argile-géotextile et leur résistance vis-à-vis des solutions salines, sur l'évaluation des changements mécaniques et micro-structuraux d'argiles en contact avec des contaminants organiques et sur l'influence des pratiques agricoles d'épandage sur la qualité des eaux souterraines.

Très actif au niveau associatif, il a fondé la section locale de St. John's de la Société Canadienne de Géotechnique (SCG). Il devint directeur régional pour la SCG de 1985 à 1987. Il fut membre de nombreux comités académiques : Institut Canadien des Ingénieurs, Société Américaine de Génie Civil (ASCE), American Society for Testing of Materials (ASTM), Association Canadienne pour la Qualité de l'Eau (ACQE/CAWQ), National Ground Water Association (NGWA).

Depuis 1986, il avait une activité éditoriale importante, notamment comme lecteur pour Geotechnical Testing Journal et la Revue Canadienne de Géotechnique, dont il supervisait depuis 1993 la traduction des résumés techniques (anglais-français). En 1995, il était nommé directeur scientifique adjoint de cette revue. Son origine française lui avait aussi valu au sein de la Société Canadienne de Géotechnique la responsabilité des traductions (anglais-français) et de la mise à jour du Manuel canadien d'ingénierie des fondations (version en langue française).

En 1996, il rentrait en France pour soutenir son Habilitation à diriger des recherches. Il préparait ainsi son retour dans la communauté scientifique française. En 1997, il était reçu au concours de Directeur de recherche au Ministère de l'Equipement et, en janvier 1998, il était nommé au LCPC dans la division de Mécanique des Sols, des Roches et de la Géologie de l'Ingénieur. Une boucle était bouclée. Spécialiste reconnu dans le domaine de la pollution des sols et des traitements afférents, il avait été chargé de développer ces thèmes dans les programmes de recherche des LPC et d'établir tous les contacts extérieurs nécessaires pour les mettre en oeuvre. Ses compétences ont également été sollicitées lors de l'établissement du nouveau schéma directeur du LCPC, une tâche dans laquelle il s'était beaucoup investi et où ses contributions avaient été très appréciées. Depuis janvier 1999, il était le chef de la section de Géologie, de Mécanique des Roches et de Géotechnique de l'Environnement et le coordonnateur de plusieurs actions au sein du Réseau technique de l'Equipement. L'année 1999 l'avait vu lancer de nouvelles idées et il allait dispenser, à partir d'octobre, plusieurs enseignements dans des écoles d'ingénieurs et des universités.

Auteur d'une trentaine d'articles, Pierre Morin avait su aborder et résoudre avec intelligence et bon sens de multiples problèmes pratiques. Compétent, pondéré, disponible, il était toujours prêt pour la discussion et l'innovation. Tous ceux qui l'ont connu et fréquenté se souviennent d'une personnalité attachante, passionnée, rayonnante et chaleureuse. Pierre Morin était marié et père de trois enfants.

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Pierre Morin (1952 - 1999)

The many friends of Pierre Morin will be saddened by the news of his death on 22 July 1999 while on a walking holiday with his family in the Alps in S. France. During his time in Canada he acquired a large number of friends who respected him as a colleague and as a sound professional. He will be remembered for his enthusiasm, for the breadth of his interest, for his work on the French version of the Canadian Foundation Manual, and for his involvement in professional and cultural life in Newfoundland. The following was adapted from the text read by his brother Bernard at Pierre's funeral service.

Pierre was born in Angoulême in France, the son of a military engineer. Transfers took the family successively to Avignon, and then Grenoble where the pure air, and forests led to his ongoing love of mountains. He was a strong but independent student, both in school and at the École des Mines de Paris, where he graduated as an engineer in 1975. His studies were followed by a period as an instructor in the French air force at Salon-de-Provence were he met Danielle who would become his wife. After PhD studies at The Laboratoire Central des Ponts et Chaussées in Paris, his sense of travel and independence took him and Danielle to the private sector in Montreal and eventually to an academic position in Memorial University of Newfoundland in St. John's where their children were born. He satisfied his mountaineer's love of nature with long hikes in a nearby forest of untouched wilderness, with the snow, the marshes and the hostile black flies, and moose, whale and iceberg watching. He represented his country as honorary consul to Newfoundland and was active in many local organizations. He returned to Paris in 1998 as head of research at the Laboratoire Central des Ponts et Chaussées, as an expert on geoenvironmental engineering for the French Ministry of Public Works, and rapidly developed strong professional and intellectual recognition.

His colleague Pierre Delage in France wrote:

> *“J'ai la grande tristesse de vous faire part du décès de notre ami Pierre Morin, à 46 ans, survenu le 22 Juillet. Il semble que Pierre ait été victime d'une crise cardiaque, lors d'une randonnée avec ses enfants dans la région de Grenoble.”*

When he chose to go back to France, many of us in Canada were disappointed at his leaving, but happy for him and his family that he was returning to the country and the culture that he clearly loved. His many friends in Canada join in offering to his family and colleagues in France our condolences and sympathy.

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Milos Novak (1925 – 1994)

Milos Novak received his degree in civil engineering in 1949 from the Czech Technical University (CVUT) in Prague, Czechoslovakia. Following successful completion of a PhD program in mechanics at the Czechoslovak Academy of Sciences (CSAV) in 1957, he moved to a research position at the Institute of Theoretical and Applied Mechanics of CSAV, where he reached the position of leading scientist.

In 1967, during a period of relaxation of the communist dictatorship in Czechoslovakia, Dr. Novak was allowed a one-year leave-of-absence at the University of Western Ontario (now Western University) to conduct research at its Boundary Layer Wind Tunnel Laboratory. After Russian tanks crushed the Prague Spring in 1968, he accepted an offer of a permanent faculty position at Western. He quickly earned a reputation as an outstanding teacher and researcher.

Considered one of the foremost world experts in dynamics of civil engineering structures and foundations, Professor Novak published over 160 refereed papers. He was a member of the editorial boards of the Journal of Soil Dynamics and Earthquake Engineering and the International Journal of Software and Engineering Workstations. He made important contributions to earthquake engineering, particularly dynamic structure-soil interactions; to wind engineering, particularly 'galloping instability'; and to the action of waves on structures. He developed powerful computer programs for suspension bridges, transmission lines, guyed masts, tall chimneys, nuclear power plants, and offshore oil rigs.

Professor Novak engaged actively in outreach to other researchers and practising engineers. Over the years, he taught short specialized courses at leading universities and research laboratories in many countries, including Canada, the United States, Japan, China, India, Australia, and New Zealand. He served as a consultant on nuclear power plants in Germany, Switzerland, Brazil, Finland, and Yugoslavia; on large offshore towers in Texas, Venezula, China, and Canada; on the Trans-Canada pipeline and Polar Gas Pipeline; and on numerous foundations for turbine generators, compressors, and paper mill machines.

He was a consultant, as well, to the United Nations on projects in India and Yugoslavia, and on the Chinese University Development Project. He was also a U.N. expert advisor to Armenia on earthquake-resistant structural design. In 1986, the Japan Society of Building Research held the *"Novak Symposium on Dynamics of Embedded Foundations and Piles."*

The Czech Technical University, Dr. Novak's alma mater, awarded him an honorary doctorate in 1993. He also received the Medal for Research and Development from the Association of Professional Engineers of Ontario, the Medal of Merit from the Czech Society for Mechanics, and the Gold Medal from the Czechoslovak Academy of Sciences.

Professor Novak is remembered by the Milos Novak Memorial Award at the Geotechnical Research Centre at Western University.

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Kenneth R. Peaker (1932-2010)

Even fighting the effects of skin cancer, Dr. Ken Peaker kept coming into work. If asked how he was feeling, he'd always say "Life is peachy".

Ken Peaker died on June 27, 2010, at the Oakville Trafalgar Hospital. He was 77. Ken was one of Bill Trow's first partners at Trow Associates. He would go on to form two other geotechnical consulting firms fairly late in life - Shaheen & Peaker Limited, and just two years ago – SPL Consultants Limited. Ken had a rare combination of technical acumen and keen business sense.

He had a humble start. Only five when his mother died of cancer, he and his brother Gary grew up in a prairie foster home until they were almost teenagers, when his father remarried and reunited his family. They lived without indoor plumbing or electricity in Riverton, Manitoba until Peaker left for the University of Manitoba, having put himself through school on the avails of trapping, fishing and a firewood business. Ken was fortunate to be awarded an Athlone Fellowship for post-graduate studies at Imperial College in London, an award that would change his life in many ways, the most important of which was meeting his future wife Lorna. Ken and Lorna were married in Manchester, England in 1961.

Following his DIC in 1956 at Imperial, he went on to study with the late Professor Peter W. Rowe at the University of Manchester, where he received his Ph.D. in 1964. Rowe and Peaker's work on passive earth pressures resulted in a change in the British Civil Engineering Code of Practice in retaining wall design. Ken and school chum Don Shields invented the first porous plastic piezometer, which they fabricated in their spare time between repairing motorcycles and studying.

Active in consulting in Ontario, the Caribbean and Middle East over his 45 year career, Ken advanced the practical application of geotechnics on many landmark projects, including Ontario Place, Scotia Plaza, Metro Convention Centre, Ontario College of Art, Ground Zero, to name a few.

Much of Ken's involvement with the Canadian Geotechnical Society (CGS) was with the Canadian Geotechnical Society - Southern Ontario Section (CGS-SOS) group in Toronto. He was the Chairman of the CGS-SOS for two terms, in 1992-1993 and 1993-1994. For his contributions to the CGS-SOS over many years he was presented with the CGS-SOS AWARD in 2008. Ken was also awarded a Fellow of the Engineering Institute of Canada (FEIC) in recognition of excellence in engineering practice and exceptional contributions to the well being of the profession and to the good of the society.

Despite his unwavering resolve in business, Ken was deep down, a shy and unassuming individual who was more comfortable on his weekend farm with the family, than in the boardroom - though he excelled at both. Ken and Lorna have three children and seven grandchildren. When cancer meant he had an ear removed, he told a grandson he'd lost it in a pirate fight. When he was hospitalized in the last couple of months of his life, he never lost his interest in the technical aspects of his work.

Ken was a great husband, father, grandfather, engineer, employer and friend. He will be missed by all those that had the good fortune to meet him.

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Ralph B. Peck (1912-2008)

Photo credit: Nancy Peck Young

When Ralph passed away in Albuquerque in New Mexico on 18th February, he was an accomplished engineer, a man who had achieved so much, won every prize, and yet he was the friend of everyone. He could leave this earth contented: his life had influenced several generations of engineers, and touched so many of us.

Ralph was close to 96 years old when he died. In his last few days, Ralph smiled and enjoyed seeing and talking to his close friends, reminding us in his strong voice that we had to hurry up if we had some last minute business. He was cheering us up, rather than us helping him along the way!

Ralph Brazelton Peck was born on 23 June 1912 in Winnipeg, Canada to American parents. His father was a civil engineer designing bridges for the Northern Pacific Railway in Canada. Ralph's family settled later in Denver, Colorado, and Ralph became an American. Ralph is survived by his two children, Nancy Peck Young (Allen) and James Peck (Laurie), and two grandchildren, Michael and Maia.

Ralph is also survived by thousands of geotechnical engineers who are indebted to him for all he has taught the profession. The geotechnical community is unique in many ways, but particularly through its friendliness and openness. Many friends from other professions have commented on how the geotechnical community reminds them of a family. Ralph B. Peck was one of the forces that made the community a family.

Ralph was lucky at the start of his career. After losing his job because of lack of work, he went to Harvard to study the new subject of soil mechanics under the direction of Karl Terzaghi an Arthur Casagrande. He soon became the assistant of Karl Terzaghi, and co-authored with him "Soil Mechanics in Engineering Practice (1948).

Ralph the engineer

Ralph was the geotechnical consultant "par excellence". He designed every type of foundation and was consultant on projects all around the world. He worked as consultant well on in his 90's. Although a full time professor at University of Illinois (1948-1974), and an excellent one, Ralph could count more than 1050 consulting projects where he soundly advised on how to solve geotechnical problems. Ralph, like his father, was an excellent engineer.

Ralph's passion was foundations, bridges, and dams. Fittingly, his last project was the Rion-Antiron Bridge in Greece. Although the expert adviser on most projects, Ralph was the one listening to the field crew and the geologist. Ralph did confide that some of the projects he enjoyed the most were the ones in Canada, where the problems were challenging, the state of practice good and the engineers competent and friendly!

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Ralph gave us the Observational Method, where he "allowed nature to speak for itself": "Nothing is better practice than predicting and verifying how the subsurface materials will behave, and adjusting the design and construction procedures on the basis of the observations as a project proceeds."

He worked with the greatest in our profession, and although doing a lot of consulting, produced milestone books, hundreds of quality papers and kept on dutifully teaching his university courses.

Ralph the educator

Ralph considered his teaching as the most important part of his life. Each semester, he taught a full load of undergraduate and graduate courses. More than 6000 students have heard Ralph lecture at University of Illinois, and many more have enjoyed his lectures around the world. His case history courses were an unforgettable learning experience: they were as interesting as reading a detective story (dixit Ed Cording) – going to the site, observing clues, listening to the construction workers, solving a puzzle with always some piece missing.

Ralph Peck taught us a method of working: critical observation, understanding fundamentals, evaluating soil behaviour, and not the least using engineering judgment. Ralph was famous for his one-page summary: "If you can't reduce a difficult engineering problem to just one 8-1/2 x 11-inch sheet of paper, you will probably never understand it".

Ralph was a brilliant educator. He taught from his case studies and made the students focus on the essence of the problem. He was defiant of quick solutions with fancy calculations. Understanding the geology, the soil and the forces at work was the essence of the solution. Ralph had also unique communication talents, not to mention his outstanding command of the English language!

Ralph the philosopher

Ralph was among the first to publish papers on the philosophy and human aspects of geotechnical engineering and papers on nature and civil engineering. Today, these papers appear as visionary, as the profession is gradually moving to include in design the perception by society and the hazard and risk involved.

Ralph pondered on the future of our profession, the future of our learned societies, the importance of site investigations versus finite element analyses, the danger of relying too much on numerical analysis or statistics. He advised young engineers on their career choices, he deplored the abuse of the observational method, and discussed why do we do site investigations! Throughout his career, Ralph strongly believed that we should bridge the gap between academia and practice.

For his achievements, Ralph was awarded essentially all known awards in our field. The National Medal of Science was awarded by the President of the United States with the following citation: "For his development of the science and art of subsurface engineering, combining the contributions of the sciences of geology and soil mechanics with the practical art of foundation design".

When made Honorary member of ASCE, Ralph received the following citation describing well his accomplishments: "For his outstanding career as an educator, researcher, problem-solver, and communicator; for his ability to perceive the problem and apply theoretical concepts to its practical solution; and for his innovative and inspirational instructional methods."

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Ralph the man

Ralph was a kind and modest man. From the very start, Ralph was very eager to learn and determined to be a good engineer! Ralph taught us by example: his life is a success story, yes, but it came about with hard work, talent, perseverance, social antennas, a great sense of humour and good judgment. Ralph never tried to impress, he acted true to himself, and simply made an unforgettable impression on all of us. Ralph was a gentleman, always interested in what you were doing, and respected you.

Ralph was not the man for long good-bys or long list of achievements. He enjoyed life, good friends, good food, good company, a good laugh, good books, travelling, and a challenging foundation problem. And he managed to do well in everything he set his mind to do.

Ralph was always happy when attending conferences and geotechnical meetings. He loved being with his fellow engineers, meeting old friends, talking to the younger people, complying with the requests for photographs and seeing the future of our profession assured with the new recruits eager to meet him. Ralph enjoyed the meetings for a good reason: the geotechnical community was his extended family.

Closure

The story of Ralph Peck is a life lived to the full, years of dedicated teaching, a loving family, a successful career, unique students and unique projects: the stuff that makes heroes. Aptly, Ralph became the First Hero of the Geo-Industry in year 2000.

Death is not a human being disappearing, it is the start of an immortal legend. Ralph, you were a legend long before most of us even heard about your name, and you will continue to be so because of your human qualities and your contributions to our profession.

Ralph, this is goodbye to you from the Canadian geotechnical community. Today, we say thank you for the life you lived, for sharing with us your intellect and your passion for soils, geotechnical engineering and civil engineering. We are all enriched, not only by the contents of your contributions, but also by the style with which you practiced your profession.

Ralph B. Peck was unique because he excelled as an engineer, scientist, philosopher, educator, citizen. He was a man of reflection and a man of judgment.

Suzanne Lacasse, NGI

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Frederick Lionel (Peck) Peckover (1921-2015)

Lionel Peckover was a pioneer in geotechnical engineering for transportation systems in Canada. He made major contributions to the design and construction of highways, seaways, canals, and railways. He died in Kingston on 8 February 2015 in his 93rd year, with his daughter by his side. He shared 65 years of marriage with his wife Sybil, who died shortly before.

Lionel graduated in Civil Engineering from the University of Toronto in 1944 and was then encouraged by Dr. Robert Legget to pursue studies in geotechnical engineering on scholarship at Harvard University, where he graduated with an S.M. degree in 1947.

Lionel had a distinguished career in applied geotechnical engineering. He served The St. Lawrence Seaway Authority in a senior capacity from 1953 to 1959. His work included supervision of design and construction of Seaway channels and dykes, and foundations for locks, bridges and other structures. He then joined Canadian National Railways and became Engineer of Geotechnical Services with coast-to-coast responsibility for issues such as the design of railway roadbeds on soft ground, improvement of ballast, reduction of frost heave, and treatment of unstable rock slopes. Many consider Lionel Peckover to be the 'father' of geotechnical engineering for railways in Canada. In 1976 he joined Canac Consulting Group, where he carried out terrain appraisal for a proposed high speed rail line from Montreal to Windsor. He retired in 1984.

As a young, recently-graduated geotechnical engineer, Lionel attended the "Conference on Civilian Soil Mechanics" in Ottawa in April, 1947, (now identified as the first Canadian Geotechnical Society Conference. This first conference developed into what is believed to be the longest series of national annual conferences in the world, now preparing for the 68th Canadian Geotechnical Conference in Quebec City in 2015.

Peck and Sybil lived in Ottawa, then in Senneville and Wildwood in Quebec, and finally moved to Kingston for their later 25 years. Peck's favorite activities were cross-country skiing and hiking with the Rideau Trail Association, curling, sailing and white-water canoeing – a true outdoorsman.

After retirement, he and Sybil travelled extensively, visiting every continent, traversing the Grand Canyon, and hiking in Canada's far north. Later they enjoyed canal cruises, weekend getaways, and sharing their travels with many groups by giving slide presentations.

Lionel remained interested in professional development and the Canadian Geotechnical Society throughout his career. He published over 40 technical papers and discussions in publications that included the Canadian Geotechnical Journal, the Journal of the American Railway Engineering Association, and a number of technical books and manuals. In 1982, as a co-author with the late Doug Piteau, he received the prestigious Burwell Award from the Engineering Geology Division of the Geological Society of America for the paper "Engineering of Rock Slopes".

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Robert (Bob) Peterson (1918-1969)

Bob Peterson graduated in Civil Engineering with Great Distinction from the University of Saskatchewan in 1939. He joined the Prairie Farm Rehabilitation Administration (PFRA) on water conservation projects and developed a great interest in soil mechanics during his first year with them. He took graduate studies under Karl Terzaghi and Arthur Casagrande at Harvard University, earning a M.Sc. Degree in Civil Engineering in 1941.

Upon returning to PFRA he became Chief Soil Mechanics and Materials Engineer responsible for all investigations and research in soils and concrete, and for the design of earthworks for numerous projects. He was one of the first engineers designated as a Soil Mechanics Engineer for a Canadian agency engaged in building dams. He developed a highly expert Soil Mechanics Division which carried out geotechnical investigations and designed over 500 dams and projects. By 1951, the Division had grown to more than 100 employees.

However, the instability of slopes in swelling shales due to rebound posed very difficult problems which could not be solved effectively using recently developed ideas on 'residual strengths' developed principally in the UK. He stated "In the solution of practical problems the use of empirical methods and personal experience with similar situations is often more reliable. A confirm-as-you-go approach may be more appropriate than a design-as-you-go approach". He intensified studies in the field and laboratory. Undisturbed samples were thoroughly inspected for geological defects, with special emphasis on bentonite layers and slickensided surfaces.

As performance data accumulated, Bob Peterson developed an approach to dam design that was based on experience, thorough field investigations, careful laboratory testing, good judgement and comprehensive monitoring of the performance of structures during and after construction.

Applications of this approach led to the successful completion of many prairie dams including the Gardiner Dam in Saskatchewan and the Shellmouth Dam in Manitoba. The Gardiner Dam has a crest length of 5km, a very flat downstream slope that was redesigned during construction. It has experienced large movements of 2.5m seated in a low-friction bentonite zone in the hard clay shale foundation but continues to function functioning well.

Bob Peterson was a pioneer who made a great contribution to the development of soil mechanics in Canada. The Canadian Geotechnical Society (CGS) honoured him posthumously by presenting him its first R.F. Legget Award in 1970. In the same year, the engineering building at the University of Saskatchewan was renamed the "Robert Peterson Building" in his honour.

This outline of Robert Petersons's contributions to Canadian geotechnical engineering was edited by J. Graham from a longer article by Nick Peters in *Geotechnical Engineering In Canada: An Historical Review* (pp.29-35) – see http://www.cgs.ca/lectures.php?lang=en. The original document, which arose from a series of taped interviews with pioneers of geotechnical engineering in Canada, was published by BiTech Publishers, Richmond BC, at the time of the Golden Jubilee (50th) Conference of the CGS in Ottawa in 1997.

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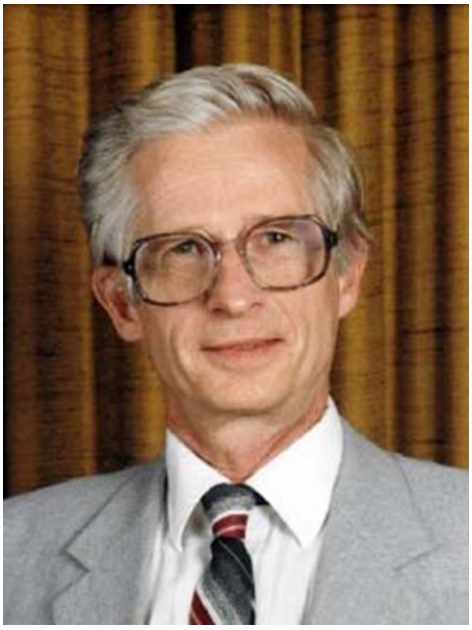
Robert (Bob) M. Quigley (1934-1995)



Dr. Bob Quigley was a distinguished Canadian geotechnical and geoenvironmental engineer and founding director of the Geotechnical Research Centre at Western University, formerly the University of Western Ontario in London, Ontario.

He obtained BASc (1955) and MASc (1956) degrees in Geological Engineering from the University of Toronto and a PhD in Soil Mechanics from MIT in 1961. In 1963, he joined Western University as a professor in a new program of geotechnical engineering in the Department of Civil Engineering.

Dr. Quigley was a leading proponent of the need for universities to be relevant to industry. As a mechanism for developing these links he was responsible for the formation of the Geotechnical Research Centre and led its development to become one of the strongest in Canada. He served as Director of the Centre until his early death in 1995 at age 61.

Dr. Quigley was a leading figure in geotechnical engineering for over thirty years in Canada and internationally. He made many seminal contributions to geotechnical engineering and the new discipline of geoenvironmental engineering. For example, he led the multidisciplinary team that identified the role of bacteria in the biochemical alteration of black shale, which had caused movements and damage to buildings in Ottawa. His studies of landfill sites in the early 1970s demonstrated the significance of molecular diffusion as the dominant contaminant transport mechanism from waste disposal facilities through intact clayey soils. His work on the chemical interaction of contaminants on clays gained worldwide recognition.

Bob Quigley was an active supporter of the Canadian Geotechnical Society, perhaps most notably as Editor of the Canadian Geotechnical Journal from 1981 to 1984, and in presenting Cross Canada Lecture Tours in 1969 and 1990.

His many awards included the Excellence in Research Award from the Ontario Ministry of the Environment; awards for the best paper published in the Canadian Geotechnical Journal in 1981, 1988, and 1994; election to the Canadian Academy of Engineering in 1993; Fellowship in the Engineering Institute of Canada (FEIC) in 1991; and the Legget Award (now the Legget Medal) of the Canadian Geotechnical Society in 1991.

Dr. Quigley's strengths as a leader included the ability to identify outstanding individuals and provide an environment in which they could develop. He was always ready to listen to and consider the views of others. He provided sound advice and good guidance to many young geotechnical engineers, including his many former graduate students and young faculty members, both at Western and at other universities. He published extensively, authoring or co-authoring more than 100 conference and journal papers and co-authoring a book on Clayey Barrier Systems for Waste Disposal Facilities.

Professor Quigley was an outstanding Canadian teacher, researcher, and engineer who had an impact on all those with whom he had dealings. He is remembered by the R.M. Quigley Award at the Geotechnical Research Centre at Western University, and annually by the R.M. Quigley Award of the Canadian Geotechnical Society for the best paper published in the Canadian Geotechnical Journal.

Dr. Quigley was devoted family man whose passing left behind his wife Marian, and three sons Steve (now deceased), James and Peter, and a number of grandchildren.

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Charles Farrar Ripley, 1922-2007

Charles F. Ripley, PEng died in Victoria, British Columbia on November 22, 2007, in his eighty-sixth year. Charlie was one of the last remaining of the pioneer practitioners in Canada of soil mechanics and foundation engineering, now known as geotechnical engineering.

Ripley was born on April 7, 1922 and raised in Lethbridge, southern Alberta. At the age of eighteen, he enrolled as a student in the civil engineering department at the University of Alberta, Edmonton. There he was inspired by the lectures and laboratory work in the new discipline of soil mechanics, first advocated in Canada by Professors I.F. Morrison and R.M. Hardy. As a student, Ripley worked on soil investigation for the wartime Alaska Highway. Later he continued post-graduate studies at Harvard University, guided by Drs. Karl Terzaghi and Arthur Casagrande, world leaders in this field.

On graduation in 1944, Ripley joined the Prairie Farm Rehabilitation Administration (PFRA), a federal government agency that was building water storage reservoirs, involving major earth dams, in the arid belt of the Canadian prairies. Under PFRA Chief Soil Mechanics and Materials Engineer Robert Peterson, Ripley was engaged on field investigations for the St. Mary/Milk River irrigation project (coincidentally not far from his home town) and as resident soils engineer on the St. Mary dam. This 200-foot high embankment built of clay was precedent setting in Canada -the first designed, constructed, and instrument-monitored dam based on soil mechanics principles in this country. Ripley also directed the initial geotechnical studies for the massive South Saskatchewan River project, including the site of the James G. Gardiner dam. As the representative for the PFRA, in 1947 he participated in the first Canadian soil mechanics conference, held in Ottawa.

In 1951 at the age of twenty-nine, Charlie founded Ripley and Associates in Vancouver, one of the earliest soil mechanics consulting practices in Canada. Joined by Earle Klohn and Cyril Leonoff in 1952, the firm became Ripley, Klohn & Leonoff Ltd of which Ripley remained president to 1970. The successor of this firm operating today is Klohn Crippen Berger, Engineering & Environmental Services.

Ripley with his firm consulted on many of the major post-war industrial projects in British Columbia, as well as nationally and internationally. Among these: site development for the Alcan Kitimat smelter, hydro-electric power projects, water supply dams and sewage treatment plants in Greater Vancouver, pulp and paper mill foundations, oil refinery and mining plant sites and tailings dams.

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Ripley moved to Victoria in 1970 as a private consultant. One of his principal projects was as an advisor to the BC Controller of Water Rights on the safety of dams and reservoirs in the province. He also authored several case histories on the performance of dams and industrial projects. He was a prominent member of the Engineering Institute of Canada (EIC) Vancouver Island Branch until the time of his death.

An active participant in engineering societies, Ripley won many awards, including the Gzowski medal of the EIC, the Legget medal of the Canadian Geotechnical Society, the Meritorious Achievement award of the BC Professional Engineers, and the initial award of the Vancouver Geotechnical Society of which he was the founder in 1953.

In a career spanning half a century, Charlie Ripley was an outspoken and consummate professional engineer. He was the pioneer geotechnical engineer resident in British Columbia and the mentor in this field to hundreds of engineers, clients, and contractors.

C.E. Leonoff

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Marius Roy (1938-2004)

Le 5 janvier 2004, s'éteignait notre collègue et ami Marius Roy. Sa carrière riche et complète s'est étalée sur près de 33 années et il était un retraité très actif depuis janvier 2003 en conservant ses activités de recherche et en participant au bon déroulement des affaires de la communauté géotechnique de Québec.

Après un baccalauréat en génie civil de l'Université Laval , Marius a obtenu successivement ses diplômes de maîtrise et de doctorat en 1966 et 1971. Dès 1970, il débute sa carrière à l'université de Moncton mais revient comme professeur adjoint à l'université Laval dès juin 1971. En 1974, il est nommé professeur agrégé et obtient sa titularisation en 1980. Directeur du département de génie civil de 1979 à 1984, Vice-doyen à la recherche de 1991 à 1993, directeur du programme de 2ième cycle de génie des infrastructures urbaines de 1996 à 2002 et responsable du comité des prix et bourses de 1997 à 2002. Durant sa carrière de chercheur, Marius a dirigé plusieurs étudiants à la maîtrise et au doctorat. Il a également participé comme expert à de nombreux projets de génie civil et il a contribué à la rédaction de plus d'une centaine d'articles scientifiques.

Marius était très apprécié de ses collègues ingénieurs québécois et canadiens, qui lui ont décerné le Fellow de l'Institut Canadien des Ingénieurs en 2001 rendant ainsi hommage à ses nombreuses contributions au génie canadien. En 1997, il recevait le prix du ministère des Affaires Municipales du Québec pour l'excellence de ses travaux en géotechnique routière. Depuis 2002, Marius était l'un des membres de la Société des Sept Gardiens du Québec, donc il était dépositaire et administrateur des rites d'engagement de l'ingénieur, ce qui souligne bien l'estime qu'avait la profession envers Marius.

Une carrière bien remplie et combien riche! Merci Marius de tant de générosité et d'un sens aigu du devoir.

Mais, Marius était beaucoup plus qu'un homme de devoir. C'était aussi un homme patient, disponible et généreux de son temps et de son savoir. Il était un bon communicateur car il savait parler le langage du bon sens si cher à notre profession d'ingénieur. Marius était une source d'inspiration et de stimulation pour la plupart de ses collègues, jeunes et moins jeunes car il travaillait sans relâche pour le bien du département et de la profession.

Marius était un homme de principes et avait su établir ses priorités tout au cours de sa vie. Il chérissait sa famille, respectait et protégeait ses amis et avait un sens du civisme exemplaire.

Jean-Marie Konrad - 28 avril 2004

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Emil Karl Sauer, (1929 – 2001)

We regretfully announce the passing of Professor Emeritus E. Karl Sauer Friday May 4, 2001.

Karl was born on October 10, 1929 in Regina, Saskatchewan. He is survived by his sister, Eleanor Matthews, of Atlanta, Georgia, niece Rachel and husband Robert Prioleau of Charleston, South Carolina, niece Jane and husband Andy Filo, of Atlanta, Georgia, and nephew David Ian Matthews of Atlanta, Georgia. Left to mourn are many close friends and colleagues. Karl was predeceased by his father Emil K.Sauer in 1968, his mother Eleanor in 1987 and his sister Dorothyea Sauer in 1952. I

In 1952, Karl obtained his B.Sc. in Civil Engineering from Queens University. Following graduation, he joined the Saskatchewan Department of Highways, where he worked as a Project Engineer. During this time, he was responsible for over 30 road design and construction projects including 100 miles of the Trans Canada Highway. From 1962 to 1964 he was the Assistant Design Engineer primarily establishing new geometric design and safety standards for the Provincial Highway system.

In 1964 Karl received his M.Sc. degree in Engineering Geology from Cornell University. From 1964 to 1967 Karl served as the Principal Geotechnical Engineer for the Department of Highways and was involved in the development of the original Geotechnical Section. During this time, he worked on site characterization for major bridges, gravel location investigations, slope stability analysis and mitigation, subgrade failure investigations and groundwater control investigations in subgrades.

In 1967 Karl completed his Ph.D. degree in Geotechnical and Transportation Engineering from the University of California, Berkeley. He then joined the Department of Civil Engineering at the University of Saskatchewan. Here he was able to pass on much of the knowledge gained during his time with the Department of Highways and to conduct research into problems he had encountered in the field. He instructed transportation engineering and engineering geology at the undergraduate level. His graduate classes included terrain evaluation and site investigation. Karl's research work involved the study of slope stability, in situ properties of clay shales, tills, glacial lacustrine clays and soft clays in groundwater discharge areas, and the basic physics of glacial processes. Karl supervised numerous graduate students, all who have gone on to successful careers. He was a prolific researcher who published over 40 refereed journal papers, a significant number of which won awards. Along with these publications was a book entitled "Airphoto Interpretation for Terrain Evaluation", and a number of chapters in other books.

In 1994 Karl took early retirement and formed a geotechnical consulting and research firm. Here he worked on many large projects for the Highway Department and the provincial mining industry, particularly potash. In 1996 he co-authored a set of geological site characterization guidelines for Saskatchewan Environment and Resource Management and the Saskatchewan Water Corporation. Karl was active in his profession until his untimely death.

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Larry G. Soderman (1927-1969)

Professor Larry Soderman was raised in Minaki, Ontario, and served with the Royal Canadian Navy as a stoker on Atlantic Convoys during World War II. He graduated in Civil Engineering from the University of Manitoba in 1952, and then worked on the St. Lawrence Power Project.

In 1955, as an Athlone Fellow, he carried out postgraduate work in soil mechanics at Imperial College in London, England. He returned to Canada two years later. While working as an engineer with Ontario Hydro, he set up the consulting company, Trow-Soderman, with Bill Trow. Larry sold his interest in that company in 1959, and was then appointed Chief Geotechnical Engineer for the Ontario Department of Highways, where he was responsible for pre-engineering studies and foundation design on developments for major highways and expressways.

Larry knew both Dr. Hugh Golder and Victor Milligan. At a dinner party at the Soderman's in early 1960, Larry put the case for a new company to Dr. Golder. "I've thought this through and you two fellows should start a company," adding, "If it does well, and I hope it does, I'll join it." The company was incorporated on July 12, 1960.

Victor Milligan recalled Larry as "a delightful man – a very good shot, good athlete, good skater, good snowshoer, good man, warm, generous, thoughtful."

In 1961, Larry was appointed Associate Professor in Engineering Sciences at the University of Western Ontario (now Western University) in London, Ontario. In 1962, he joined Golder Associates as a Principal and was instrumental in establishing a Golder office in London. He brought local contacts and a well-deserved reputation for integrity. He acted as a Chief Engineer with technical excellence and served as a moral model. He authored some 13 papers, mainly on the properties of clays in Eastern Canada, but also on the design of pavements in Kuwait and on geophysics. Some papers were co-authored with Victor Milligan, and one with Hugh Golder.

Larry was an original Associate Editor of the Canadian Geotechnical Journal from 1965–1969, during the period when Victor Milligan was the initial Editor.

Although he was the driving force behind the founding of the company, he never was a full-time employee. Larry had a congenital heart disorder and consequently, he never slept more than four hours each night. He died at the age of 42 in 1969.

While he died young, he was nevertheless an influential voice during the important early growth of geotechnical engineering in Canada – the first soil mechanics courses at the University of Western Ontario, the beginnings of the Geotechnical Research Centre, the founding of Golder Associates, and first years of the Canadian Geotechnical Journal,

To this day, the L.G. Soderman Award, established in memory of the late Professor L.G. Soderman, is awarded annually to an engineer to assist with pursuing graduate studies in Civil Engineering at Western University.

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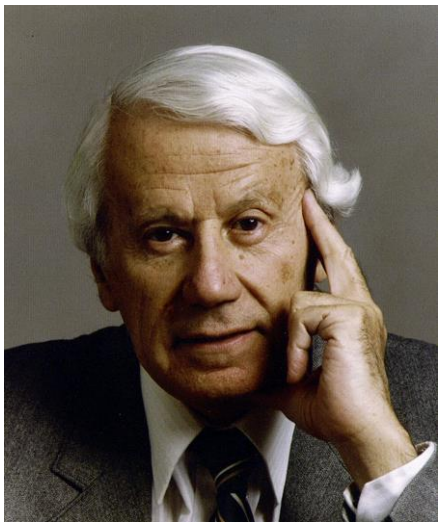
Anthony G. (Tony) Stermac (1922 – 2002)



The many friends and colleagues of Tony Stermac will be sad to hear of his death from cancer in Toronto in April 2002. As well as having a distinguished professional career, Tony played a formative role in the early years of the Canadian Geotechnical Society. He served the Society as Chair of the Toronto Section of CGS, Chair of the Organizing Committee for the 18th Canadian Geotechnical Conference in Toronto in 1964, President of the Society in 1983 – 1984, editor of the Society's Newsletter in 1989, and Director General during 12 years of active growth from 1987 – 1998.

Tony Stermac was born in Croatia in 1922. After graduating from the University of Zagreb, he spent eleven years in university and consulting service in Zagreb. Following a Diploma from Imperial College, London, he moved to Canada in 1960. He joined the Department of Highways of Ontario, later known as the Ministry of Transportation, and served in increasingly senior positions, retiring as Director of the Transportation, Technology and Energy Branch in 1987.

His technical papers, published in the Canadian Geotechnical Journal and elsewhere, reflect his characteristic attention to detail and provide significant case histories and analyses that add to our knowledge of the stability of embankments on soft varved clays and of bridge foundations. He also deserves particular credit for initiating and directing research studies of the long-term behaviour of ground treated by electro-osmosis.

Tony Stermac was a member of the small group of colleagues in Toronto who started the Canadian Geotechnical Journal. He was an Associate Editor in the early years of the Journal, and Editor from 1971 – 1974. He served on the Committee for revisions to the National Building Code of Canada, a contribution that eventually turned into the Canadian Foundation Engineering Manual. He had considerable influence on the way the Canadian Geotechnical Society operates as a technically diversified technical society operating in more than 20 Canadian cities on behalf of both engineers and geoscientists. It provides a model that has influenced other Societies in Britain, the United States, Mexico and Japan, among others. Tony directed the Society's attention to providing professional development opportunities in the form of local, national and international conferences on a wide range of technical subjects that include soil mechanics, engineering geology, cold regions, geosynthetics, rock mechanics, hydrogeology and geoenvironmental engineering.

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Tony Stermac received many professional honours and awards. Of special mention, were a Fellowship of the Engineering Institute of Canada in 1988, and the award of the Institute's John B. Stirling Medal in 1996. In 1999, to honour of his contributions, the Society renamed its Distinguished Service Plaque the A.G.Stermac Award for Service to the Canadian Geotechnical Society. He was proud of the recognition by his geotechnical colleagues represented by the R.F. Legget Award (the highest award of the CGS) in 1976. He loved his chosen profession and the opportunities he had to influence its development.

All of this provides an inadequate sense of the man himself. In his younger days he was a talented athlete and a fierce competitor in international water polo for Yugoslavia. Throughout his life he was gifted with great intellectual curiosity and was a lover of politics, music and art. All who worked with him know of his integrity and were influenced by his wisdom and foresight. He brought enthusiasm to all he did and was particularly thoughtful in his support of young people and also of his peers. He displayed untiring dedication to fostering the work of the Society until his death. He will be greatly missed.

The Society extends its sympathies to Tony's wife Darinka, their daughters Daria and Lana, and the extended family.

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Hugh B. Sutherland O.B.E. (1920 – 2011)

Canadian friends of Hugh Sutherland, particularly in Ottawa and Winnipeg, will be sad to hear of Hugh's death in Glasgow, Scotland in December 2011 in his 91st year. He is survived by his daughter Moira and son Hugh.

Hugh Brown Sutherland started the hard way. He studied at night-school and eventually qualified as an engineer through examinations of the Institution of Civil Engineers in London. He worked as a civil engineer with Oscar Faber and Partners in London assessing bomb damage. After the war, he developed an interest in the emerging discipline of soil mechanics and helped develop the first university soils laboratory in Britain. He then went to Harvard University in 1946 to study and conduct research under Professors K. Terzaghi and A. Casagrande on potential effects of a nuclear explosion on the Panama Canal. During this time at Harvard, he met Lionel Peckover of the Division of Building Research (DBR), NRCC in Ottawa, who invited him to meet Dr. R.F. Legget, the Director of DBR. Dr. Legget invited him to the First National Soil Mechanics Conference (1947) in Ottawa, along with L.F. Cooling and Geoff Meyerhof who came from the U.K. to participate.

This began a long and productive relationship between Hugh Sutherland and the soil mechanics group at DBR, starting with the stability of slopes and varved clays at Steep Rock Iron Mines. Later he worked for DBR on vibration problems from trolley buses in Winnipeg. He demonstrated that damage to houses was due to the nature of the Winnipeg clay and not to traffic vibrations. He delighted in telling about taking seismic equipment to the home of a woman who had complained to the local authority. As the human body is most sensitive to vibrations in the prone position, he lay on her bed to conduct the test. And when the woman's husband arrived home asking him: "What the hell are you doing?" he replied: "Believe it or not, I'm just waiting for the next trolley bus." He also did valuable early work on the unstable riverbanks in Winnipeg. This led to the award of Honorary Citizenship of Winnipeg.

After becoming Head of Civil Engineering in Glasgow, he continued collaborating with his friends in Canada through frequent exchanges of visits and lecture tours. For some years, several Canadian postgraduate students worked jointly with him and DBR on clay properties and slope stability. In addition to his university duties, Hugh was a consultant on foundations, tunnels, nuclear power stations, dams, airports, etc. in the U.K., Japan, Germany, Italy, and India, among others.

Hugh Sutherland received awards from universities in Poland and Japan, and an Honorary Doctorate from the University of Glasgow, where he was also Professor Emeritus. He was Vice-President of the Institution of Civil Engineers, from which he received the George Stephenson Medal, and was a Council Member of both the Institution of Structural Engineers and the Royal Academy of Engineering. In 2003, Hugh was appointed Officer of the British Empire (O.B.E.), from Queen Elizabeth II for "Services to Education and Engineering".

(Including information from Scotsman, 31 Dec., 2011, and http://universitystory.gla.ac.uk)

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François Tavenas (1942 – 2004)

Nous avons appris avec grande tristesse l'annonce du décès de M. François Tavenas, ancien professeur de génie civil et recteur de l'Université Laval et premier recteur de l'Université du Luxembourg. Ce dernier est décédé subitement le 13 février au Luxembourg. Il avait 61 ans. Né le 12 septembre 1942 à Bourg-de-Péage en France, François Tavenas est diplômé en génie civil de l'Institut national des sciences appliquées de Lyon et docteur en géotechnique de l'Université de Grenoble.

François Tavenas a mené toute sa carrière universitaire au Québec. Entré en 1968 à l'Université Laval de Québec comme maître-assistant, François Tavenas a gravi les échelons pour devenir doyen de la Faculté des sciences et de génie entre 1985 et 1989. En 1989, il devient vice-recteur de l'Université McGill de Montréal. En 1997, il retourne à l'Université Laval où il est élu recteur; il sera en poste jusqu'en 2002. Il a été président de la Conférence des recteurs et des principaux des universités du Québec de 1999 à 2001.M. Tavenas était un chercheur très actif en géotechnique et un ancien président de la Société canadienne de géotechnique. Il a reçu la médaille Leggett en 1995 et la Médaille Julian C. Smith de l'Institut Canadien des Ingénieurs en 2001.

François Tavenas laisse dans le deuil son épouse Gundula Schlichting, ses trois enfants: Anne-Catherine (Stephen Gauthier), Philippe (Anne Pelletier), Sophie (Mark Flemming) et ses petits-enfants: Charles, Nicolas, Marie-Pier, Laurence et Olivier.

La présidente de la SCG, Mme Suzanne Lacasse, a offert, au nom de toute la communauté géotechnique canadienne, ses condoléances à la famille et aux proches de François Tavenas.

With great sadness, we learned that our colleague François Tavenas passed away in his sleep in Luxembourg on 13 February at the age of 61. François was an active and highly respected leader in geotechnical research and practice in Canada. Born on September 12 1942 in Bourg-de-Péage in France, François Tavenas graduated in civil engineering at l'Institut National des Sciences Appliquées in Lyon and obtained his doctorate in geotechnical engineering from l'Université de Grenoble.

François Tavenas spent his entire university career in Québec. He was Past President of the Canadian Geotechnical Society, a former Professor of civil engineering at Université Laval, former Vice-Rector at McGill University, Rector at Université Laval and most recently, the first Rector of the new Université du Luxembourg. He was the recipient of the 1995 Leggett Medal and the 2001

(Continued on following page)

EIC Julian C. Smith Medal. His death is a great loss for his family, his friends, our Society, our profession, Québec City where he was so active, the research community and the many universities on the international scene where he has become so well known and widely recognised for his scholarship and abilities.

François Tavenas is survived by his wife, Gundula Schlichting, his three children, Anne-Catherine (Stephen Gauthier), Philippe (Anne Pelletier), Sophie (Mark Flemming) and his five grand-children: Charles, Nicolas, Marie-Pier, Laurence et Olivier.

On behalf of the Canadian Geotechnical Society, the President of CGS, Suzanne Lacasse, has sent her deepest expression of sympathy to François' family and friends.

Denis Leboeuf, Vice-Président / Vice-President Communications, CGS

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Benjamin (Ben) Torchinsky (1926–2013)

Friends and colleagues of Benjamin Torchinsky were saddened to learn of his death on December 23, 2013. Ben was born in Calgary, Alberta in 1926. In 1947 he received a Bachelor of Science degree in Civil Engineering from the University of Alberta and a Master of Science degree in Civil Engineering in 1949. From 1947–1949 he was a Sessional Instructor in Civil Engineering at the University of Alberta.

In 1949, he joined the faculty of the University of Saskatchewan in Saskatoon. He held the position of Assistant Professor and then Associate Professor in the Civil Engineering Department of the College of Engineering. During this time while conducting research for the Saskatchewan Research Council on cracking and deterioration of buildings, he realized that shallow foundation systems such as conventional spread footings were not performing satisfactorily with the swelling soils encountered in the City of Regina.

For foundations to perform satisfactorily in these areas, it was necessary to use deep foundations extending below the "active" zone of seasonal moisture variation. He concluded that a bored type concrete pile was the most economical deep foundation system that would extend below the active zone, and which he recommended in areas with potentially active clay soils.

In 1952 he founded B.B. Torchinsky & Associates Ltd., which specialized in soil mechanics and foundation consulting engineering. Two years later he started the piling company, Western Foundation Borings Limited which subsequently became Western Caissons Limited to construct bored type pile foundations.

In 1957, due to the increasing tempo of his outside interests, he resigned from the University of Saskatchewan to manage the business enterprises. As president, he directed the rapid growth of the firm until it provided services across Canada and the United States, as well as overseas. By 1970 these engineering and construction companies were consolidated into publicly traded AGRA Inc. and in 2000 AGRA merged with U.K. based AMEC plc. Torchinsky retired from AGRA in 2000.

There were many entrepreneurial "firsts" in Torchinsky's career. In the early 1950's he pioneered the installation of deep piles and caissons in Western Canada; by the mid-1950's he established the first cable television system in Western Canada (Cablenet); in 1960 he built the first canola oil refining plant in Canada; in the late 1970's he established the first all-news radio network across Canada (CKO); and at the turn of the century he spearheaded construction of the first electronic toll highway in Canada (Highway 407 in Ontario).

In 2003 he received an Honorary Doctor of Science Degree from the University of Alberta, his alma mater. His accomplishments have also earned him many awards. He was nominated by the Canadian Geotechnical Society for the 1997 Sir John Kennedy Medal, which he received, and which is the most distinguished award from the Engineering Institute of Canada. He was also named, Fellow of the Engineering Institute of Canada in 1997. He was awarded the Beaubien Award in 2001, the highest recognition presented by the Association of Consulting Engineers of Canada.

This obituary was prepared (with permission) from information presented in Agra Foundations in 2006.

Victor Sowa

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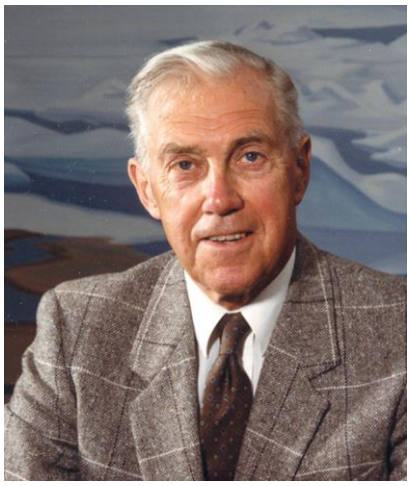
William A. Trow (1920 – 2012)



William (Bill) Trow was a pioneer in geotechnical engineering. When he founded William Trow Associates, a small firm in Brampton, Ont., in the 1950s. he didn't guess it would become one of North America's fastest-growing engineering consultancies.

What interested Bill Trow was the satisfaction he derived solving particularly difficult engineering problems. "There are two types of people in the world," he told his son Philip. "There are the watchers and the doers. I'm a doer."

William Albert Trow was born in England in 1920 to Canadian parents who had served in the British Army in India. Eventually, the family moved back to Ontario, where Bill attended North Toronto Collegiate Institute before serving in the Royal Canadian Air Force as a navigator. He flew as a navigator in 35 Lancaster bomber missions in which mortality rates were very high. For this service he received the Distinguished Flying Cross.

After a brief period in the intelligence corps, Bill Trow returned to Canada, and enrolled in the University of Toronto where he received his master's degree in civil engineering in 1948. After some years with Ontario Hydro's research division and then a small engineering firm, he had started his own company Trow, Soderman and Associates, which later became William Trow Associates.

Philip Trow remembers his father working tirelessly. "He'd be up at four in the morning to drive to Sudbury, do the sampling himself, drive back to Toronto, do the analysis and write up the report for the client, all in the same day."

Friend and colleague Chris Thompson, who joined the company in 1968, remembered that “Bill Trow inherently understood the properties of soils and ground water. By the time I first met him, he knew almost everything about geotechnical conditions in Ontario and probably elsewhere. He seemed to use geotechnical investigations to simply confirm what he already knew."

Bill Trow's real interest was in research and analysis. He soon hired a group of engineers, each with a particular specialty, to help manage the company and expand into areas such as concrete, asphalt and building sciences. The firm continue to grow and in the 1980s was considered a dominant geo-engineering firm in Ontario. It was closely involved in the development of many high-profile buildings in Toronto's downtown core; notably, the CN Tower in 1973 and Roy Thomson Hall in 1978. The company was also involved in mine-site projects in Northern Ontario, and other projects in western Canada and the United States, Arabia and Oman. Trow's largest projects in the Middle East involved construction monitoring at the $8-billion Riyadh International Airport and installation of water level gauges in wadis throughout Saudi Arabia.

Bill Trow officially retired in 1986 but continued working as a consultant for another 10 years. At the company he fostered a sense of fellowship and belonging. This sense of community extended to his active participation in the community of Thornhill. He and his wife Lucie were involved in the Society for the Preservation of Historic Thornhill and in the performing arts community in York Region.

Bill Trow’s many contributions to geotechnical engineering were recognized by the award of the prestigious R.F. Legget Medal for outstanding, lifelong contributions to geotechnique and the G. Geoffrey Meyerhof Award for exceptional contributions to the art and science of foundation engineering.

Chris Thompson describes his contributions this way: "One of Bill Trow's greatest legacies is the large number of geotechnical engineers who gained experience working for him at Trow. In effect, Bill trained much of the Toronto geotechnical community."

Revised from a notice by Nora Ryell in the Globe and Mail, 8 May 2012. (Return to top)