

**Biography: Professor R Paul Young Ph.D., C.Eng., FIMMM., C.Geol., FGS., FRSC**

<http://civil.engineering.utoronto.ca/staff/professors/paul-young/>



Professor Young is an engineering geophysicist who has focused his research and engineering career on developing seismic methods and instrumentation to monitor fractures and rock quality. Over the past 35 years, he has pioneered techniques used today in monitoring and interpreting induced seismicity in the mining, petroleum and nuclear waste disposal industries. Through his research groups at Queen's University and the University of Toronto, Canada, Keele University and Liverpool University, UK, as well as through spin off companies such as ESG, Canada and ASC/ICL, UK, fundamental scientific advances have been made in applied seismology and rock mechanics. He has published over 250 scientific papers in refereed journals and conference proceedings, supervised over 45 Ph.D. students and post-doctoral research fellows and developed innovative instrumentation systems for induced seismicity/acoustic emission monitoring. Prof. Young's research is focused on rock fracture dynamics and induced seismicity with application to natural geologic hazards such as volcanic activity and earthquakes and engineering applications such as mining, hydrocarbon recovery, hydraulic fracturing and deep underground storage for nuclear waste isolation and CO<sub>2</sub>

sequestration. He continues to develop innovative geophysical imaging techniques in rock fracture mechanics and investigate the synergy with advanced numerical modeling.

Professor Young has provided academic leadership at the highest levels. In the last 20 years, he has served as Vice-President of the University of Toronto, responsible for Research and Innovation (2007-2014), has served as Chair of the Department of Civil Engineering and Director of the Lassonde Institute for Mining at the University of Toronto, has held the Keck Chair in Seismology and Rock Mechanics at the University of Toronto, the Chair of Earth Science at the University of Liverpool and has been President of the British Geophysical Association. He has chaired national boards including TRIUMF (Canada's Nuclear and Particle Physics Laboratory), and Canada's U15 committee (Vice Presidents, Research from Canada's leading 15 universities). He has also been an invited member of committees that provide advice to government, notably he was a member of the Council of Canadian Academies Expert Panel that reported to Environment Canada on the environmental impacts of shale gas development (<http://www.scienceadvice.ca/en/assessments/completed/shale-gas/expert-panel.aspx> ).

He has been awarded many honors for his research and innovation, notably, Fellow of the Royal Society of Canada, the Willet G. Miller Gold Medal of the Royal Society of Canada for his research in earth sciences, the Queen Elizabeth II Diamond Jubilee Medal for services to scholarship in Canada, and the John A. Franklin Award for Rock Mechanics by the Canadian Geotechnical Society. He is also a fellow of the American Association for the Advancement of Science, a fellow of the Institute of Materials, Minerals and Mining and is a Chartered Engineer.

As a Senior Consultant, he is well known for his ability to move science from the laboratory to industry. He continues to provide expert scientific and project management advice to Oil and Gas, Mining and RadWaste companies, and universities around the world.