CATHERINE JEAN HICKSON Geoscientist: B.Sc., Ph.D., P.Geo.

CURRICULUM VITAE

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Updated: April, 2022

CATHERINE JEAN HICKSON Geoscientist: B.Sc., Ph.D., P.Geo.

1503 - 4194 Maywood Street • Burnaby, BC • V5H 4E9 • 604.435.9644

CURRICULUM VITAE

1. BIOGRAPHICAL DATA

Name: Catherine Jean Hickson B.Sc., Ph.D., P. Geo. FGC, D. Tech. h.c.

Address: 1503 – 4194 Maywood Street, Burnaby, British Columbia, Canada, V5H 4E9

Date and place of birth: April 4, 1955, Edmonton, Alberta

Citizenship: Canadian & British

ORCiD: https://orcid.org/0000-0001-9004-1962

2. EDUCATION

DEGREE	DATES	INSTITUTION	SUPERVISOR
B.Sc. (Honours, cum laude)	1978-1982	University of British Columbia	Dr. W.C. Barnes
Ph.D. (Geology)	1982-1987	University of British Columbia	Dr. W.H. Mathews
Professional Geoscientist	July 6, 1996	Professional Engineers and Geoscientists of British Columbia (also registered in Alberta, NWT and Nunavut)	Reg. # 20437

B.Sc. Thesis 1981: Vector analysis of grain orientation in the May 18, 1980 `Lateral blast' deposits at Mount St. Helens, with implications for the mechanism of flow, The University of British Columbia, 99 p.

Ph.D. Thesis 1987: Quaternary volcanism in the Wells Gray-Clearwater area, east-central, British Columbia, The University of British Columbia, 357 p. Defended December 18, 1986, Graduation May 1987.

CONTACT INFORMATION

Tuya Terra Geo Corp LinkedIn Skype ttgeo@telus.net https://www.linkedin.com/in/catherine-hickson-86333925/ magmacathie

3. BIOGRAPHICAL OVERVIEW

Current Positions:

CEO, GENERAL PARTNER, 1212843 B.C LTD.(Alberta No. 1)

President and Director, No. 1 Geothermal, May 2020 – present

President, Tuya Terra Geo Corp., 2014 – present

Adjunct Professor, University of British Columbia School of Earth and Atmospheric Sciences (unpaid) 1996 - present

Geothermal Canada various executive board positions since 1981 (last 5 years: President 2017—2020; vicepresident 2020 -present (volunteer position)

Expedition Staff: Adventure Canada and Seabourn Cruise Line, 2013 - present

Immediate past positions:

Director and Chief Operating Officer, Dajin Resources Corp., 2014 - 2021

Director, Dajin S.A. (Argentina) 2014-2018, 2019-2021

Vice President Exploration and Chief Geologist, Alterra Power Corp., October 2008 – June 29, 2013

Research Scientist Level 05, Geological Survey of Canada, resigned September 2008 to accept position with Alterra Power Corp. (Now Innergex Renewable Energy Inc. and formerly Magma Energy Corp.)

Key areas of expertise: Science management and integration, lithium exploration and development; volcanology, geothermal energy, international relations, program development, project management, corporate social responsibility, public education, community communication, exploration techniques, hazard and risk assessments, Quaternary surface processes, regional mapping.

Dr. Catherine Hickson is an internationally known and respected scientist and an accomplished multidisciplinary scientific leader. She spent most of her career (1981 – 2008) with Natural Resources Canada's Geological Survey of Canada as a Research Scientist and Manager. In 2008, she moved to the private sector to join Magma Energy Corp. (now Alterra Power Corp.) at the behest of Ross Beaty (President of the Board) to lead their geothermal exploration program. In 2013, Alterra withdrew from geothermal exploration and Hickson formed a consulting company, Tuya Terra Geo Corp. (TTGeo). Her clients include Alterra Power Corp., HS Orka (Iceland), Geoscience BC, and others.

Her professional integrity, skill at management (from project management, governmental relations, diplomacy, and human resources), and contributions to advancing geoscience knowledge have gained her recognition including the prestigious C.J. Westerman Memorial Award presented by the Association of Professional Engineers and Geoscientists of BC (2010), and the Head of the Public Service Award (1999), given by the Clerk of the Privy Council, among other rewards. In 2015 she was awarded an Honorary Doctorate of Technology from the University of the Fraser Valley.

Hickson's professional specialty is volcanology. From these educational beginnings, her career has broadened significantly. Her expertise over more than three decades has included energy and mineral resources issues, corporate social responsibility through to community engagement, government relations, land-use planning, integrated geoscience assessments, regional geochemical and geophysical surveys, geothermal research, lithium exploration, regional mapping, landslides, earthquakes, volcanic monitoring and scientific instrumentation, geophysics, early warning systems, emergency preparedness, and multi-hazard risks and hazard assessments, in addition to significant educational outreach efforts.

In the promotion documentation prepared for advancement to Research Scientist Level 05 (the highest attainable within the Public Service of Canada and only achieved by a few Research Scientists), Dr. Sandy Colvine, her Director at the time, made the following comments: "Her leadership of the two Multinational Andean Projects, and in particular the more recent Geoscience for Andean Communities, have integrated areas of enquiry, developed new techniques, received acceptance, recognition and support and been implemented by a significant number of stakeholders. They have led changes within departmental research priorities and influenced development of government plans...They have undoubtedly influenced the directions of clients through adoption of new approaches to risk reduction by several Andean countries. Dr. Hickson is recognized nationally and internationally as an authority in broad areas and for contributions to departmental strategic outcomes and her expertise and advice has been sought in a wide range of international and national forum. She commonly serves as spokesperson for the department and has served on a range of national and international committees. Her productivity is multi-year in multiple/broad areas and depth, emphasizing vehicles for knowledge transfer designed to meet the strategic results and public good outcomes."

Science: Author of over 100 scientific works ranging from journal papers to abstracts, Dr. Hickson has enjoyed a vigorous research career.

In 1981, Dr. Hickson was hired as a student and research assistant under the guidance of Dr. Jack Souther to assist in the Mount Meager geothermal project and carry out geothermal reconnaissance and mapping in British Columbia. In1988 she was hired by the GSC as a Research Scientist and upon completion of her first major mapping project in 1989 (Queen Charlotte Islands Project) she conceived and prepared a multi-disciplinary multi-year geoscience plan for the Chilcotin-Nechako region in central British Columbia, funded under the Frontier Geoscience Project (FGP). Between 1989 and 1995, her work focused on regional mapping of the volcanic dominated Taseko

Lakes 1:250,000 map sheet in central British Columbia. The region has a complex tectonic history that extends from the Paleozoic to the Holocene. During this period, she also worked on geothermal issues that ultimately led to the publication of the geothermal map of British Columbia in 1992.

Dr. Hickson has maintained her interest in volcanology and has continued research in Quaternary volcanism throughout her career. She completed a major synthesis of volcanism in Canada for the GSC Bulletin of Natural Hazards in Canada, in addition to hazard posters prepared by the Canadian Geographic and the National Geographic societies. Prior to this, she helped update the Smithsonian Institute's records on Canadian volcanism. A major web site was launched in mid-2002 (www.volcanocanada.ca) (originally Volcano Canada) providing the public and other researchers access to a significant compilation of information on Canadian volcanism. Additional projects included detailed studies of subglacial volcanism, recent explosive eruptions of Mount Meager (a large stratovolcano 100 km north of the city of Vancouver), volcanic hazard mapping in the Garibaldi Volcanic Belt and a reassessment of the cause of death (over 2000 reported) at Tseax Volcano in Nisga'a territory, northern British Columbia.

In April 2008, Dr. Hickson achieved Research Scientist Level 05. This is the highest level of achievement in the research scientist stream offered by the Department and only attained by a very few research scientists.

In 1996 Dr. Hickson was appointed Adjunct Professor, Dept. of Earth and Ocean Sciences, The University of British Columbia. This appointment was in recognition of the contribution Dr. Hickson has made in the past and continues to make to the teaching of students in the department through lecturing, laboratories and through her role as thesis supervisor of undergraduate and graduate students.

International work: Dr. Hickson became one of NRCan's most experienced staff members in international work. Working in South America since 1994, she was instrumental in conceiving, planning, and executing two major international geoscience aid projects. In addition, she acquired considerable experience with international scientific organizations and with cross border (Canada-US) relations.

While in government and the private sector, Dr. Hickson has been very successful dealing with other government departments and agencies both within Canada and outside. Between 1990 and 2008, she chaired the Interagency Volcano Response Committee dealing with response (in particular the aviation response) to volcanic eruptions in Canada and neighbouring regions. The committee included two levels of government (represented by five different departments) and direct liaison with two levels of government (also represented by five departments) in the United States. With colleagues in Environment Canada, she worked internationally and inter-institutionally to make changes to the international aviation regulations through the International Civil Aviation Organization (ICAO).

In February 1995, Dr. Hickson completed a special three-month project for the Inter-American Development Bank (IDB). This project involved leading a team of nine specialists to assist the Geoscience Surveys' of Argentina, Bolivia, Chile and Peru in preparing a five-year, multi-disciplinary geoscience funding proposal. The proposal was directed at increasing the capacity of the participating South American Geological Surveys to provide better geoscience information for mineral exploration. Included in the proposal was work on regional geochemical surveys, regional mapping, mineral deposits, and geophysics. Dr. Hickson and three other members of the team travelled extensively through the field areas (high Andes, Puna and Altiplano areas) proposed by the four countries in addition to meeting with staff and assessing the Surveys' capabilities and needs to undertake such a program. The proposal and recommendations, accepted by all parties, were presented in a 420-page document to the IDB. The high quality of the work of Dr. Hickson and her team was acknowledged in a Natural Resources Canada Sector Team Merit Award and an individual Achievement Award.

Following completion of the South American funding proposal, the project was accepted for funding by the Canadian International Development Agency (CIDA). The project was a five-year, \$12 million-dollar endeavour (\$4.9 million dollars from CIDA) referred to as the Multinational Andean Project (MAP): Geoscience for Sustainable Development (MAP:GSD). The project began in 1996 and focused on regional mapping, mineral deposit work and geochemical and geophysical surveys along the border areas of the four countries in the high Andes. Dr. Hickson was the project manager and also served in a technical capacity, working actively in the field with colleagues from the participating countries focusing on problem solving. The project was successfully concluded in March 2002.

MAP was a landmark project in South America. It brought together (for the first time) Argentina, Bolivia, Chile, and Peru in a cooperative project that culminated in the release of several products representing the most up-to-date and comprehensive data set on this world renowned (from an exploration perspective) central Andean region. The project generated exploration activity, increased the capacity of the Geological Surveys' and was generally so successful that the countries wished to work together on a second project. Colombia, Ecuador, and Venezuela were invited to join this pan-Andean effort. Under Dr. Hickson's leadership and following her vision of creating scientific information useful for land use (including mining and mineral exploration) and health and safety planning, this pan-Andean team of countries committed \$22 million dollars along with \$12 million from CIDA to tackle earthquakes, volcanoes, and landslide hazards in

the Andes, in a project entitled Multinational Andean Project: Geoscience for Andean Communities (MAP:GAC). The project started May 22, 2002 and Dr. Hickson was chosen as the Project Manager to manage this six-year project on behalf of CIDA. In 2005, she moved to the position of Senior Advisor to the project, leaving the direct administration duties to take up other challenges. The project came to a successful conclusion in 2008 with support from CIDA to begin an even larger and more ambitious project focused on land use management. Unfortunately, Natural Resource Canada's policy on international projects shifted and the project was not supported at the departmental level.

In 2008, Dr. Hickson was sought out to be VP Exploration and Chief Geologist for Magma Energy Corp. (now Alterra Power Corp.), and continued her international work in this role. Using her South American contacts and ability to liaise with government departments, Hickson established companies in Peru and Argentina, and began managing the company's Chilean assets. During the first three years, Hickson travelled to over 22 countries in a 12-month period. In 2010, she established a branch office in Siena, Italy and became the President of Magma Energy Italia. In 2013, Hickson brokered several deals for Alterra worth over \$72,000,000 in the Joint Venture partnerships of the majority interest held by Alterra's Chilean, Italian and Peruvian assets. Alterra ceased geothermal exploration in June 2013 and Hickson moved to a new role as a consultant for Alterra, forming her own consulting company, Tuya Terra Geo Corp., in 2014.

Science Management: Dr. Hickson became one of NRCan's most accomplished managers; she managed at both national and international levels. Early in her career with the Geological Survey of Canada's (GSC) Cordilleran Division, Hickson was given responsibility for multidisciplinary regional mapping projects with relatively large operating budgets and as many as twelve personnel reporting directly to her. From 1991-1993 she was a member of the Division's management team. This, and her early international work, demonstrated her capabilities as an effective and efficient manager. These management experiences led to her appointment as Subdivision Head of the Vancouver Subdivision of the Pacific Division, following its reorganization from the former Cordilleran Division April 1, 1995, less than 7 years after her first appointment to the GSC as a Research Scientist.

As Subdivision Head, GSC Vancouver, Dr. Hickson directly and indirectly managed over 50 personnel. At that time, the annual budget of the subdivision exceeded three million dollars and other funding raised this level to over five million. The office at that time consisted of five sections: Cordilleran Geoscience; Cordilleran Hazards and International Projects; Sales and Information; Facilities, Scientific Support and Administration; and the Mary Akehurst Geoscience Library. Four scientific and technical staff from other Divisions were housed by the Vancouver office in addition to four staff from the regulatory group governing the use of explosives in British Columbia. The direct reporting relationship to the Subdivision Head included a complement of Research Scientists, emeritus scientists, and technical support staff. There was also fluctuating numbers of visiting scientists, post-doctoral fellows, interns, students, and volunteers.

GSC Vancouver's scientific component's focus was on Cordilleran regional geology (British Columbia and Yukon), paleontology, and hazards research (volcanology, landslides, and groundwater). The facilities, scientific support and administrative section contained five permanent staff and supported the office infrastructure and included responsibility for an advanced micropaleontology laboratory, rock specimen preparation facilities and warehouse. The Sales and Information facility was operated by four sales staff and open to the general public, consistently recording over 8,000 client visits a year. It sold topographic maps, hydrographic charts, and geoscience information. The fifth section, the Mary Akehurst Geoscience Library, housed the largest geoscience collection in Western Canada and was run by two personnel. The library was open to the public and received over 2,500 visits annually.

During her tenure as Subdivision Head there were significant management challenges. In 1995 the Subdivision was downsized as part of Departmental reductions and an announced office move was announced. Faced first with the closure of the Vancouver office and its move to facilities on Vancouver Island, Dr. Hickson played a major role in reversing this decision. Following reversal, the office was moved to new facilities within Vancouver, necessitating planning the new facilities, then organizing and moving the entire staff with no loss of service to clients. The move was completed in October of 1996. The Subdivision was then faced with close to a 50% budget cut and difficult staffing decisions had to be made to meet the new fiscal reality. Twelve staff members left the employ of the government during this time period. Fiscal reality also necessitated the reorganization of the scientific program so that major projects had staggered field seasons and more team-oriented, collaborative, and cooperative studies were begun. Changes continued to grip the organization and these changes continued to present management challenges which Hickson adeptly handled and worked to the advantage of the Subdivision. During her tenure, project funding levels were increased and staffing levels augmented following the earlier cuts.

As Project Manager of MAP:GSD (1996 – 2002) followed by MAP:GAC (2002 – 2008) (and Senior Advisor 2005 – 2008), Dr. Hickson faced many challenges managing multinational projects with multidisciplinary teams in often unstable political climates. The seven Andean geoscience surveys participating in the projects: **Argentina**, Servicio Geológico Minero Argentino (**SEGEMAR**); **Bolivia**, Servicio Nacional de Geología y Minería (**SERNAGEOMIN**); **Colombia**, Instituto de Investigación e Información Geocientífica, Minero-Ambiental y Nuclear (**INGEOMINAS**); **Ecuador**, Dirección Nacional de

Geología (**DINAGE**); **Perú**, Instituto Geológico Minero y Metalúrgico de Perú (**INGEMMET**); and **Venezuela**, Instituto Nacional de Geología y Minería, (**INGEOMIN**), were at varying levels of development and stability. A similar situation was faced in the first project (MAP:GSD Argentina, Bolivia, Chile, Peru), with a nine-person Vancouver-based team and associated contractors and personnel from other parts of the GSC, approximately \$2 million dollars per year from Canada (doubled with the South American country's in-kind contributions) in assistance was provided during the project's term.

Providing technical assistance in the form of workshops, short courses, field visits, equipment and collaboration was relatively straightforward, though complex due to the number of different disciplines covered, the number of countries involved, the varying levels of support from their own governments and their institutional capacity. One of the more difficult aspects of the project was helping the Geoscience Surveys gain stature within their own governments so that the research they carried out was recognized and supported with funding. Dr. Hickson was asked at the ministerial level to provide advice on the role of geoscience for society and the economy as well as comment on the support the institutions were receiving and propose organizational changes. With her experience and knowledge of the workings of many surveys she was able to provide insight into what makes a scientific institution work and why some work better than others. Her overriding philosophy has been to get science information used for decision making; whether it be used by companies looking for better, more cost-effective exploration, other government departments, other scientists, or members of a community.

In Alterra, she developed a very strong, high level exploration team, managed as a matrix across Alterra's subsidiary companies. By carefully choosing young up-and-coming scientists with significant promise as well as seasoned veterans with decades of experience, she created a highly successful team who made a number of significant discoveries. In Peru, new areas not known for their geothermal potential were claimed, positioning Alterra as the leading geothermal company in the country. In Chile, Dr. Hickson was instrumental in the discovery of a geothermal "Giant" deposit with an inferred capacity of 320MWe. The sale of the majority share in these projects will bring Alterra more than \$70 million in development dollars.

In her role as Director and Chief Operating Officer for Dajin Resources Corp. Hickson brings together her experience working with multidisciplinary teams from diverse cultural backgrounds to move Dajin's projects forward. Her deep understanding of how to build effective teams and deploy them in an efficient way has moved Dajin forward to create a dynamic company at the forefront of the lithium exploration boom.

She continues her leadership role as the CEO (GENERAL PARTNER, 1212843 B.C LTD.) and as President of No. 1 Geothermal, the limited partnership established to manage and develop the Alberta No. 1 geothermal project. Leading a diverse team of employees and contractors to execute on Alberta No. 1, she is working on technical, political and community issues to mover the project forward. Spudding of the first well is anticipating in Q2 of 2021 and power production by 2024. Through this project, Hickson has become a change agent in Alberta for the energy transformation that is going on.

Corporate Social Responsibility (CSR) and Community Engagement: A key element of the MAP:GAC project was the engagement of communities in hazard awareness and ultimately in decisions about their community. Working with a team of communication experts, sociologists and psychologists, the project created a dynamic and evolving protocol for community and government engagement. Working with all levels of government a framework for decision making at the local level was created. Key to the strategy of engagement at the local level was inclusion of all genders and ethnic groups. Women and children were key elements in carrying the message throughout their community and obtaining traction for new ideas and concepts. Communities were mentored and guided through the decision-making process, ensuring that they had a full understanding of all aspects of the issue. Local leaders (especially women) were encouraged and supported to come up with made-at-home decisions, ensuring acceptance of decisions and minimizing radicalization and polarization of the community. As a direct result of the project, two communities were moved (in Bolivia and Venezuela) and other communities adopted new zoning and mitigation strategies to reduce their risk from natural hazards.

This work was done in the early days of growing awareness of industry's responsibility to communities. Many of the ideas and concepts worked on in MAP:GAC were transferred to the mining and mineral exploration sector during the course of the project. It is now almost inconceivable that a company would not have a proactive community engagement program along with an action plan for community social responsibility.

Hickson took the MAP:GAC learning to the private sector in her management of Alterra's global assets. A strong CSR action plan was implemented by Alterra and extensive work with communities were the hallmarks of the exploration activities. For example, community access permits are a necessary part of the exploration process in Peru. In Peru, Alterra's holdings covered lands held by the Quechua and Aymara people. Community workshops, soliciting government commitment, local engagement of "change agents", and other actions eventually led to successful acquisition of the community permits within this challenging cultural context.

Dajin has land in socially challenging areas of Argentina. Hickson's skill and expertise in CSR has been put to good use negotiating agreements with indigenous groups. Successful project development requires the cooperation of a wide variety of stakeholders and Hickson has the knowledge to successfully negotiate these aspects of project development.

Outreach and service work: Dr. Hickson is sought after for outreach activities. She has made sustained contributions to geoscience outreach over the more than three decades she has been active in the profession. Her experience ranges from print, TV, and radio media, includes an impressive list of public speaking engagements, contributions to several books and other products for the general public. She also has considerable experience and made major contributions to professional societies.

One of the most important outreach contributions she made was supporting the first Geoscape poster for the general public. Finding funding within the Vancouver subdivision budget when no other support could be found, and strongly encouraging the authors, the first poster "Geoscape Vancouver", by Robert Turner, John Clague and Bertrand Groulx, was published in 1996. It became the prototype for a suite of posters that now number more than 16 covering the length and breadth of Canada. These posters were intended specifically for the general public to help them understand the importance of geological issues in their communities and make them more sustainable by understanding their local geoscape (geological landscape). The water resources, natural hazards, earth resources, and environmental services are also an integral part of the posters. Under Dr. Hickson's supervision and with her strong endorsement and funding commitment, these multi-organizational endeavours became a standard product for all large Cordilleran mapping projects within the GSC and its partner organizations. They have since expanded well beyond the Cordillera and also spawned a parallel Waterscape series.

Dr. Hickson was Technical Program Chairman for the Geological Association of Canada (GAC) Annual General Meeting in Vancouver in May 1990 (1,200 registrants). In addition to her duties as Program Chairman she was principal organizer of a major symposium commemorating the 10th anniversary of the eruption of Mt. St. Helens. Dr. Hickson completed five terms as Chairman of the Division of Volcanology and Igneous Petrology of the GAC, plus a three-year stint on the National GAC Council. Additionally, she has been an officer in six other organizations including the Canadian National Committees for the International Union of Geodesy and Geophysics and the International Quaternary Association. In May 1996, she completed a one-year term as Chairman of the Cordilleran Section of the Geological Association of America. She was also co-chair of the program committee of Pan Pacific Hazards '96, a conference on earthquakes, volcanoes and tsunamis held in Vancouver in 1996 (1,000 registrants). The meeting was one of Canada's major contributions to the UN-declared International Decade for Natural Disaster Reduction (IDNDR), from 1990 to 2000. In 2003 she was General Chairman for the Mineralogical Association of Canada, Geological Association of Canada and the Society of Economic Geologists meeting held in Vancouver, May 2003. Attracting over 1,000 delegates, the meeting was over 3 years in the planning and was acclaimed as one of the most successful meetings of the society to that date.

In addition to over 100 scientific works ranging from full journal papers to conference abstracts, Dr. Hickson is the author and co-author of several publications dealing with geology for the general public. Of her most significant accomplishments is a book she co-authored with naturalist Trevor Goward entitled "Nature Wells Gray". Covering all aspects of the natural history of this mountainous wilderness area of east-central British Columbia, the book was soon out of print. A revised edition was completed and released in 1995.

In 2005 Hickson completed and released "Surviving the Stone Wind", a book about her experiences in 1980 when she witnessed the dramatic eruption of Mt. St. Helens in Washington State. Told from the first person, the book chronicles the events of May 18th, 1980 and then tells the story of the scientific investigations that have led to a deeper understanding of how volcanoes work, applicable to volcanoes everywhere in the world. She contributed to the book "Four Billion Years and Counting: Canada's Geological Heritage" co-published by the Canadian Federation of Earth Sciences and Nimbus Publishing released in 2014. In 2016 she completed a field guide to Wells Gray Provincial Park called "Wells Gray Rocks!". This book highlights the geological treasures of the park and is written for the travelling public.

Dr. Hickson participates in many activities related to her profession both inside and outside of her work schedule. She has a special interest in public education programs in the earth and natural sciences and as an outgrowth of completing her thesis in a provincial park (Wells Gray). Dr. Hickson has maintained close ties with Provincial parks staff and local residents. She is currently working with the community of Clearwater and the Thompson Nicola Regional District to attain UNESCO Geopark status for the Thompson River Valley from Valemount to Barriere. She is a Director of the Wells Gray Wilderness Society Centre and the society is promoting Wells Gray as a World Heritage site (http://www.wellsgrayworldheritage.ca) by submitting an application to have the park nominated to Canada's tentative list in early 2017.

Thousands of school children have heard Dr. Hickson speak. She has been an active member of the Scientists and Innovators in the Schools program (http://www.scienceworld.ca/sis) since its inception in 1989. In addition to speaking in British Columbia schools she has been invited to other schools and institutes across the country and in the USA.

Numerous field trips for the parks department, public schools, and through The University of British Columbia's Department of Continuing Education have interspersed her professional career. She has assisted Provincial parks staff in training naturalists, produced signage and trail guides, and lectured park visitors about the natural history of several parks in the province.

Dr. Hickson's innovative outreach was acknowledged in a Sector Level Merit award issued by Natural Resources Canada in March of 1995. In December 1999, she received the prestigious "Head of the Public Service Award" in the category of "Excellence in Service Delivery" in part for her work in communications. In 2015 the University of the Fraser Valley honoured her with an Honorary Doctorate of Technology. She has been featured in the following books:

- "In the Path of Destruction, Eyewitness Chronicles of Mount St. Helens", Richard Waitt, Washington State University Press, 2015, 413 pages
- "Women Scientists Who Changed the World", Kelly Di Domenico, Rosen Publishing Group, 2012, 106 pages
- "Adventurous Dreams, Adventurous Lives", Jason Schoonover, Rocky Mountain Books, 2007, 312 pages
- "Earthdance: How Volcanoes, Earthquakes, Tidal Waves and Geysers Shake Our Restless Planet", Cynthia Pratt Nicolson, illustrated by Bill Slavin, Kids Can Press, Toronto, 1994, 48 pages

Her outreach skills have provided her the opportunity to lecture and be part of polar expedition teams to both the Arctic and Antarctic. An overriding theme is the evolution of landscapes through natural forces such as volcanoes and glaciers. She uses these as a basis upon which to present the influence of geology on civilization.

4. PROFESSIONAL EMPLOYMENT

a) current and recent employment:

CEO (GENERAL PARTNER, 1212843 B.C LTD.) and President of No. 1 Geothermal (May 1, 2020 – present)I 10707 100 Ave NW #750, Edmonton, AB T5J 3M1

President, Tuya Terra Geo Corp. (October 2014 – present)

Suite 1503 4194 Maywood Street, Burnaby, BC V5H 4E9 Cell: +1 (604) 761-5573; Direct: +1 (604) 435-9644

Director and Chief Operating Officer, Dajin Lithium Resources Corp. (July 15, 2014 – December 31, 2021)

450-789 West Pender Street, Vancouver, BC V6C 1H2

Tel: 604-681-6151 Fax: 604-689-7654

Chief Geologist and Technical Director, Terrapin Geothermics Inc. (July 5, 2018 – present)

10707 100 Ave NW #750, Edmonton, AB T5J 3M1

Adjunct Professor, Dept. of Earth, Ocean, and Atmospheric Sciences (1996 – present)

University of British Columbia, Vancouver Room 2020, Earth Sciences Building, 2207 Main Mall, Vancouver, BC, Canada, V6T 1Z4

Expedition Staff – Geoscience Expert, Adventure Canada (March 2014 – present)

http://www.adventurecanada.com/leaders/

Expedition Staff – Geoscience Expert, Seabourn Cruise Lines (May 2014 – present) http://www.seabourn.com/luxury-cruise-destinations/Antarctica-Patagonia

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Vice President Exploration and Chief Geologist (October 2008 – June 2013)

Alterra Power Corp, Vancouver, British Columbia, October 2008 – present Suite 600-888 Dunsmuir Street, Vancouver, BC V6C 3K4

b) teaching, professional or research positions held prior to permanent NRCan (GSC) appointment:

Geological Assistant	Geological Survey of Canada	03/06/81-10/09/81
Teaching Assistant	UBC, Dept. of Geology	09/81-05/82
Physical Scientist	Geological Survey of Canada	28/09/81-26/03/82
Geological Assistant	Geological Survey of Canada	03/05/82-31/08/82
Teaching Assistant	UBC, Dept. of Geology	09/82-05/83
Geological Assistant	Geological Survey of Canada	01/06/83-02/09/83
Teaching Assistant	UBC, Dept. of Geology	09/83-05/84
Geological Assistant	Geological Survey of Canada	04/06/84-07/09/84
Visiting Research Fellow	Government Laboratory	01/01/87-19/06/88

c) date and rank of first appointment (NRCan/GSC):

Research Scientist Level 01, 1988/06/02

d) subsequent ranks and positions including dates of promotion:

Research Scientist Level 02, 1991/04/01

Responsibility Centre Manager 117 (Library Services Subdivision), 1991/09/01 - 1993/11/25

Acting Responsibility Centre Manager 116 (Scientific Subdivision), as required to 93/11/25

Acting Director, Cordilleran Division, as required 91/09/01 - 93/11/25.

Acting Director, Pacific Division, as required 95/04/01 to 2002/09/08.

A/Head, GSC Vancouver Subdivision, GSC Pacific Division, 95/04/01 - 96/09/30

Adjunct Professor, Dept. of Geological Sciences, University of British Columbia, January 1, 1996 to present

Research Scientist Level 03, 96/04/01 to 96/10/08

Subdivision Head, (Research Manager Level 02), Vancouver Subdivision, Pacific Division 1996/10/09 - 2002/09/08

Project Manager – Multinational Andean Project: Geoscience for Sustainable Development, 1996/09/01 – 2002/03/31

Section Head, Cordilleran Hazards and International Projects, 2002/09/08 – 2003/03/41

Project Manager – Multinational Andean Project: Geoscience for Andean Communities, 2002/06/28 – 2008/03/31

Interim Program Manager, Reducing Risk from Natural Hazards, 2005/09 –2006/05/09

Project Leader, Risk Assessment Methodologies, 2006/04 – 2008/05

Research Scientist Level 05, 2008/04/01 – 2008/10/03

Chief Geologist Alterra Energy Corp. (formerly Magma Energy Corp), 2008/10/04 - 2009/02/01

Vice President Exploration and Chief Geologist Alterra Energy Corp. (now Innergex Renewable Energy Inc.; formerly Magma Energy Corp), 2009/02/01 – 2013/05/31

Managing Director Magma Energy Chile, 2008/11/01 – 2011/06/01

Managing Director Magma Energia Geotérmica Peru, 2009/02/01 – 201

President, Magma Energy Italia, 2010/04/07 – 2013/12/01

e) date of granting of "Appointment Without Term" (NRCan/GSC):

Research Scientist Level 01: June 20, 1989

f) special professional qualifications:

University of Idaho, Department of Geology, College of Mines and Earth Resources, Hydrothermal Alteration for Precious Metal Exploration Workshop, January 2-8, 1989

Canadian Institute for Management Development, People Management, February 24-28, 1992

Diana Cawood and Associates Ltd., Human Resources Consultants, Talking Straight: Communication Skills to Build Commitment and Get Results, March 5-6, 1992

Energy Mines and Resources/Training and Development Canada, EMR Performance Management Training Program, March 2-3, 1992

E.B. Smythe and Associates Management Consultants, Project Management, March 11-13, 1992

Canadian Institute for Management Development, Creative Learning, November 17-18, 1992

The Association of Professional Engineers and Geoscientists of the Province of British Columbia, registration as of July 6, 1993

Managing Change, Dr. Chris Magnesson, University of Calgary, March 14, 1995

Foundation Management Course for Women, Simon Fraser University

Managing Information Systems (April 30 to May 2, 1998)

Budgeting and Finance (May 28-30, 1998)

Organizational Behaviour (October 15-17, 1998)

Marketing (October 14-16, 1999)

Strategic Management (November 18-20, 1999)

Financial Accounting (February 10-12, 2000)

Len Berry Summer School, Silicate Melts, Glasses and Magmas Workshop, University of British Columbia,

September 1-5, 2003, Lead instructor, Dr. Don B. Dingwell, Convener, Dr. J.K. Russell

UBC Centre for International Communication, Cross Cultural Communication for International Work, September 25, November 19, 2003 (module continued to December 20, 2003), Ms. Maki Chase

Results Based Management (January 13-14, 2004), Mr. Lee Johnson

RimSim Facilitator training, Dr. David Howell, USGS Menlo Park, September 27-29, 2004.

Mining Company Disclosure 101 and 43-101 regulations, AME Short Course, January 20, 2018

5. PROFESSIONAL ACTIVITIES

a) academic or professional awards and distinctions:

Dean's Honour List 1982

NSERC Post Graduate Scholarship 1984-1986, University of British Columbia

Visiting Research Fellow, Government Laboratory, 1987-1988, Geological Survey of Canada

Geological Association of Canada - Fellow 1990

Geological Society of America - Fellow 1994

Natural Resources Canada - Sector Level: Team Merit Award for Innovative Outreach - March 1995

YWCA - Women of Distinction nominee in two categories; Education, Training and Development and Health; Science and Technology - April 1995

Natural Resources Canada - Division Level: Team Merit Award for the "Borders Project" - InterAmerican Development Bank Contract - September 1995

Natural Resources Canada - Sector Level: Individual Achievement Award for the "Borders Project" - InterAmerican Development Bank Contract - September 1995

Head of the Public Service Award in the category of "Excellence in Service Delivery". Limited to 20 recipients nationally each year. Awarded by the Clerk of the Privy Council, Dr. Mel Cappe December 6, 1999.

Volunteer Service Award, Geological Association of Canada, Presented at the St. Catharine's Annual General meeting, May 11, 2004

Plaque of recognition for service to the Instituto Geológico Minero y Metalúrgico de Perú (INGEMMET), December 12, 2004 Natural Resources Canada, Earth Science Sector - Team Merit Award for the response to the Asian Tsunami, December 26, 2004 - September 2005

Natural Resources Canada, Earth Science Sector - Team Merit Award for the Multinational Andean Project: Geoscience for Andean Communities - December 2007

Natural Resources Canada, Departmental Merit Award for the Multinational Andean Project: Geoscience for Andean Communities – May 2008

C. J. Westerman Memorial Award, APEGBCs highest award for a geoscientist – August 2010

Fellow, Royal Canadian Geographical Society – since 2013

Fellow. Professional Geoscientists of Canada – since 2013

Fellow, Society of Economic Geologists, since 2014

Honorary Doctor of Technology, University of the Fraser Valley, British Columbia – June 2015

Certificate of Appreciation; Geological Association of Canada – May 2019

b) membership on editorial boards:

Multinational Geoscience Series SERNAGEOMIN, Chile: Publication review board (1999 – 2007)

c) membership on peer review committees:

Selection Committee: Geological Association of Canada Ambrose Medal (1991-1992)

Review of British Antarctic Survey (January-March 1999)

Review of Volcanic Hazards Program, United States Geological Survey for the US National Academy of Sciences/National Research Council, Commission on Geosciences, Environment and Resources (January 1999-May 2000)

Review of British Antarctic Survey (January-March 2004)

Review of the Geological Hazards Division of the Peruvian Geological Survey (INGEMMET), with Dr. R.I. Tilling (January-June 2005), including a one-week site visit

Review of the U.S. Department of Energy Geothermal Technologies Program (June 6-10, 2011), Washington, D.C Selection Committee: Provincial and Territorial Outstanding Geoscientist Award (2012-2014)

d) positions as officer in professional societies:

Councilor, Canadian Quaternary Association (1991-1995)

Secretary, Association for Women Geoscientists (1992-1993)

Vice-Chairperson, GAC, Volcanology Division (1990-1992)

Chairperson, GAC, Division of Volcanology and Igneous Petrology (1992-1996) (formerly the Volcanology Division) Past Chairperson, GAC, Division of Volcanology and Igneous Petrology (1996-1998)

Representative for IAVCEI, Canadian National Committee, International Union of Geodesy and Geophysics (1992-1996, renewed 1997-2000)

Director, Canadian Geothermal Association (1993-1996)

Vice-Chairperson, Canadian National Council - International Quaternary Association (1993-1994)

Vice-Chairperson, Geological Society of America, Cordilleran Section (1994-1995)

Chairperson, Geological Society of America, Cordilleran Section (1995-1996)

Past Chairperson, Geological Society of America, Cordilleran Section (1996-1997)

Member, Committee on Membership, Geological Society of America (1996-1998)

Member, Geological Foundation of Canada (1996-1999)

Director (1998-2000)

Council member, Geological Association of Canada (1997-1999)

Education Committee member (1997-1999)

Member, Canadian National Committee, International Union of Geological Sciences (1999-2001) (a subcommittee of the Canadian Geological Committee)

Canadian Project Leader, International Union of Geological Sciences (IUGS), International Geological Correlation Programme (IGCP) Project 455 "Effect of basement, structural and stratigraphic heritage on volcano behaviour", (2001-2005)

Director, Canadian Geothermal Resources Council (CanGRC) (2013-2017)

Director, Wells Gray Wilderness Society Centre (2015-present)

Director, Burnaby Regional Allotment Gardens BARAGA (2015-2018)

Secretary (2016-2018)

Director, Engineers and Geoscientists British Columbia (2017-2019)

President, Geothermal Canada (2017 – present)

Chair, Geoscience BC Geothermal Technical Committee (2018 – present)

e) member of:

Geothermal Canada (formerly Canadian Geothermal Energy Association) (1998 – present)

Canadian Geothermal Council (2010 – 2017 organization ceased to exist)

Geological Association of America (since 1984), Fellow (since 1997) [FGAA]

Geological Association of Canada (since 1985), Fellow (since 1990) [FGAC]

Cordilleran Division

Division of Volcanology and Igneous Petrology (formerly the Volcanology Division)

Environmental Division

Mineral Deposits Division

Pacific Section

Association for Women Geoscientists (1988 - present)

Puget Sound Chapter (1988-1992)

Canadian Cordilleran Chapter (ceased to exist)

Association for Promotion and Advancement of Science Education (since 1990)

American Geophysical Union (since 1991)

Society for Canadian Women in Science and Technology (since 1992)

Partners for Education Program, Geological Society of America (since 1997)

Explorers Club (since 2005)

Director, BC – Yukon Section (2015-2018)

Society of Economic Geologists (since 2013)

Fellow, Royal Geographical Society (since 2013) [FRGS]

Fellow of Geoscientists Canada (since 2013) [FGC]

Fellow International, The Explorers Club (since 2004)

Wells Gray Wilderness Society

Burnaby Regional Allotment Gardens (BARAGA)

f) professional consultancies and activities:

i. multiday commitments up to 2008 when Hickson retired from the Public Service:

1981 1985/86	Vancouver Public School Board, Earth Sciences Curriculum. "Volcanoes: a unit of study", 1981. "Fire and Ice", an interpretive display, Wells Gray Provincial Park Visitors Centre, 1985-1986.
1988	Assistance in preparation of written material and collection of display articles for permanent exhibit "Our Natural World", Science World (B.C. Science and Technology Centre), Fall, 1988.
1989/03	British Columbia Provincial Parks, signage for Wells Gray Park, March-April 1989.
1989/04	Mr. Abdula Gahzi, re: mineral potential of alkalic volcanic centres in the Cordillera, April 13, 1989.
1989/04	Bufo Inc., signage for Nairn Provincial Park.
1989/04	Pacific Bentonite Ltd. (Mr. Nigel Skermer) re: industrial mineral potential of the Masset Formation.
1989/05	Noranda Exploration Company Ltd. (Dr. J.N. Helsen) re: mineral potential of the Chilcotin Nechako Basin and Survey plans for work in the region.
1989/07	Task Force on Barriers to Women in the Public Service (Ms. Jean Edmonds).
1989/08	Ministry of Parks, Province of British Columbia, Wells Gray Provincial Park 50th Anniversary Celebration.
1990/03	Volcano Observatory, Anchorage, Alaska, Observer and member response team, Mount Redoubt, (Dr. Tom Miller, Scientist in charge).
1990/06	War Eagle Resources Inc. (Mr. Dave Patterson), Gaspard Lake Claims.
1990/11	MineQuest (Mr. Jim Turner), update on GSC activities in the Chilcotin Nechako Region and look at
	MineQuest holdings in the area.
1991/02	Gaspard Lake Claims.
1992/03	Golder Engineering and Thurber Consulting, Cheekye fan hazard assessment, Ministry of the Environment, May 1991 to March 1992.
1992/07	Taseko Mines, Taseko Lakes, British Columbia.
1992/09	Invited Specialist, Mount Rainier Working Group, to prepare science plan for National Science Foundation Funding. September 18-20, 1992, produced report: Mount Rainier, Active Cascade Volcano.
1992/09	Invited Specialist, Smithsonian Institution Global Volcanism Project, Washington DC.
1992/12	Mr. Brian Wear, Lava Rock aggregates, Nazko Cinder Cone, Clearbrook, BC.
1993/01	Plateau Region/Clisbako, meeting of interested Parties and property holders, Mr. J. Dawson, Mr. A.F. (Bert) Reeve.
1993/02	Ms. Debbie Mori, Simon Fraser University, Emergency Management Course.
1993/03	Bufo Inc., National parks assessment report on the Interior Plateau area, Mr. Chris Harris.
1993/03	Ministry of the Environment, Nisga'a Memorial Lava Bed Park, interpretive signs and trails, Ms. Margaret Vanderberg.
1993/04	I.M. Watson & Associates Ltd., prospecting, and showings in the Chilcotin area, Mr. I.M. Watson.
1993/05	AUSPEX, Castle Creek Mines Ltd., information on perlite localities in British Columbia, particularity the
4004/04	Queen Charlotte Islands, Mr. Alvin Jackson.
1994/04	CANATEX II Earthquake preparedness exercise, Vancouver, BC, Natural Resources Canada representative.
1994/06	Canadian International Development Agency (CIDA): Technical advisor to the Guatemalan agency "INSIVUMEH" to train personnel on a Correlation Spectrometer (COSPEC) in techniques of volcano monitoring, June 1993 through 1994.
1994/06	Mr. Brian Wear, Canadian Pumice Corporation, Nazko Cinder Cone, Quesnel, BC.
1001100	

Mr. Hans Modesky, Misty Mountain Gold, Information on the Cinola Gold deposit.

1994/08

- 1994/08 Mr. Tim Sadlier Brown, Nevin, Sadlier, Brown Co. Ltd., visit to volcanic outcropping near Whistler to determine possible implications for geothermal project.
- 1994/12 Mr. Chris Harris, Bufo Inc. Information of geological localities in Wells Gray Provincial Park.
- 1995/02 Mr. Rebagliati, Romulus Resources Information on the Cinola Gold deposit and surrounding region.
- 1995/04 Mr. Chris Harris, Bufo Inc. Critical editing of text and help with figures for new park brochures.
- 1995/10 Mr. S. M. Mikalsky, Canada Northwest Energy Ltd. Review of company logs, reports, and maps of prospect in Cuba to assist company in understanding tectonic environment of leases.
- 1995/06 Mr. Kevin Neary, Assistance with interpretive information for Nisga'a Memorial Lava Beds Park.
- 1997/04 Mr. Tad Macilwraith. Critical editing of text and help with figures for new visitors centre video "Nisga'a Memorial Lava Beds Park".
- 1997/04 Invited expert, COSPEC workshop organized by Dr. Stan Williams, Arizona State University.
- 1998/01 Ken Mason, Landscape rock, sources of material and review of specimens.
- 1998/01 Participation as technical expert and coach for Thunderbird III emergency preparedness exercise testing the preparedness of emergency response groups in the Fraser Valley to an eruption of Mount Baker volcano. (Exercise held January 27-29, 1998).
- 1998/09 Yes Magazine: Canada's Science Magazine for Kids. editorial review of special 7-page, 12 articles, full colour section, Autumn 1998, pp. 18-24.
- 1999/02 Consultation on the eruption frequency of Mount Garibaldi for the BC Environmental Assessment Office (Mr. Raymond L. Crook).
- 2000/09 Consultation on the presence of perlite in British Columbia. Imasco Minerals. Inc. Mr. Abe Sacks.
- 2000/09 Consultation on the presence of perlite in British Columbia. V.F. Erickson Consultants Ltd. Mr. Victor Erickson.
- 2004/06 Invited expert, the 2nd International Conference on Volcanic Ash and Aviation Safety, Alexandria, Virginia.
- 2005/01 Member of the Canadian delegation to the UN sponsored international conference on Disaster Reduction, Kobe, Japan.
- 2005/01 Member of the Canadian Delegation to Delhi, India to meet with members of the Indian Government seeking solutions for tsunami mitigation (with Dr. Denise D'Amour, DFO, Sidney, and Dr. Tad Murty, retired DFO).
- 2005/01 Invited by the Vanguard Foundation, Sri Lanka to participate in emergency preparedness planning sessions and review of the tsunami disaster (invited by Mr. Lakshaman Bandaranayake, also invited was Dr. Peter Anderson).
- 2005/01 Member of the Canadian Delegation to Phuket, Thailand for a ministerial meeting seeking solutions for tsunami mitigation (with Dr. Denise D'Amour, DFO, Sidney, and Dr. Tad Murty, retired DFO, Head of delegation was Canada's ambassador to Thailand).
- 2005/04 Continental Drilling 10-year review, Potsdam, Germany, invited subject matter expert.
- 2005/04 Contribution to "Fire Mountains of the West", by Stephen L. Harris, contributed Canadian section, Mountain Press Publishing, Missoula Montana, 2005, 454 p.
- 2005/05 Critical Reviewer, Marsden Fund of New Zealand, scientific grants (Capturing the secrets of a life-sized lahar, May 2005).
- 2005/09 Subglacial volcanism in the Whistler area. Worked with graphic artist, and writer to complete signage for a new trail and viewpoint in Whistler.
- 2006/07 World Conference on Disaster Management, Toronto, Ontario.
- 2006/09 Volcanic Ash Hazard to Aircraft, Environment Canada, Edmonton, Alberta, workshop for aviation weather forecasters.
- 2006/10 Review "Dynamics, internal structure and substrata incorporation in Andean Debris avalanches, comparison between central and southern Andes case studies", National Commission for Scientific and Technological Research.
- 2006/12 Contribution to "Natural hazards, earth's processes as hazards, disasters, and catastrophes" (Canadian Edition), Keller, E.A, Blodgett, R.H., and Clague, J.J., Pearson Prentice Hall, 2008, 421 p.
- 2007/02 Argentina Management consultation, establishment of a volcano hazard program (February 26-March 2).
- 2007/04 NRCan representative, Iberoamerican Association of Mining and Geological Survey, Cartagena, Columbia, April 25-27, 2007.
- 2007/06 Contribution to "Adventurous dreams, adventurous lives: today's explorers recall the youthful dream launching their remarkable lives" by Jason Schooner.
- Information update for British Columbia Provincial Emergency Program meeting with regional representatives regarding the Nazko seismic swarm, Victoria, BC, telecom with regions, November 14.

Left Government of Canada Service in 2008; employment continued as an employee or contactor.

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22.	post public	service pi	roțessional	consultancies	and	engagements:

P P	**************************************
2012-13	U15-U20 Helmholtz initiative in geothermal energy; one-day workshop and part of the working group in exploration techniques and advances in drilling; contact Martyn Unsworth.
	https://www.ualberta.ca/-/media/ualberta/reporting/report-card/12700-d2dreportcard-2013-14-final.pdf (p.17)
2013-14	New visitor display area for Wells Gray Provincial Park – 7 graphic "panels" and artifacts. Aldrich Pears Associates Ltd; contract with BC Parks Service, contact Tod Houghton.
2013-18	Major client: HS Orka (Iceland) review and recommendations for the Reykjanes geothermal field, tracer
	testing, well targeting and prognosis; contact Thor Gislason.
2013-18	Major client: Alterra Power Corp. JV supervision (Peru, Chile & Italy), geothermal advice and
	recommendations; contact Paul Rapp.
2013-14	Ross River geothermal play; technical aspects of continued work in the region; contact Tim Sadlier Brown.
2013-14	Wells Gray Provincial Park Visitor's Centre displays, Wells Gray Information Centre, Clearwater, BC.
2013-14	Thompson Okanagan Tourism Association – Wells Gray GeoPark initiative.
2014	Response to Geoscience BC RFP for geothermal review of 18 prospective sites in British Columbia led by
	Tuya Terra Geo Corp.
2014/01	Lakelse Geothermal permit application (Lakelse Lake, British Columbia), Natural Earth Energy Inc.,
	Vancouver, completed the exploration technical aspects of the application, contact Brian Fairbank.
2014/05	Quesnel geothermal investigations; contact Brian Wear.
2014-15	Power Engineers, due diligence team for Chilean/Interamerican Development Bank MiRiG funding
	opportunity for geothermal developers; contact Mike Long (http://www.iadb.org/en/topics/climate-
	change/chile-geothermal-risk-reduction-ctf.9904).
2015	Nazko First Nations geothermal exploration recommendations, plan, and report, including community and
	Band council presentations; contact Titi Kunkel.
2015	Response to RFP by Province of Neuquen to deliver a \$650,000 geothermal exploration program for

2015 Response to RFP by Province of Neuquen to deliver a \$650,000 geothermal exploration program for Domuyo volcano, Argentina: contact Jacque Chouraki, TeraNov.

2015-16 Direct-use Geothermal Resources in British Columbia, Roadmap and Report Geoscience BC http://www.geosciencebc.com/s/2015-022.asp http://www.geosciencebc.com/s/Report2016-07.asp

Follow-up Direct-use geothermal resources in British Columbia, Geoscience BC http://www.geosciencebc.com/s/Report2017-07.asp.

2016 Capacity building for the Ministry of Mines, Petroleum and Natural Gas and the Geological Survey of Ethiopia, CIRDI SUMM project. June-October 2016.

2018-present Client: Innergex Renewable Energy Inc. JV supervision (Peru, Chile & Italy), geothermal advice and recommendations.

g) national and international conferences and symposia organized:

1990 Vancouver '90, Geological Association of Canada/Mineralogical Association of Canada Joint Annual Meeting.

Technical Program Chairperson

Held: May 17-19, 1990

Special Symposium Commemorating the May 18, 1980 Eruption of Mount St. Helens, GAC/MAC Vancouver '90.

Conveners: C.J. Hickson and D.W. Peterson

Held: May 18, 1990

1991 The Challenge of Natural Disaster Reduction, GAC/MAC Toronto 1991.

Conveners: A.G. Davenport and C.J. Hickson

Held: May 28, 1991

1994 Physical and Chemical Volcanology: Ancient and Modern Regimes, GAC/MAC Waterloo 1994.

Conveners: C.J. Hickson and J.K. Russell

Held: May 17, 1994

1996 Pan Pacific Hazards '96. A Conference on Earthquakes, Volcanoes and Tsunamis, Vancouver, B.C (co-chair with Dr. Wayne Greene, UBC).

Technical Program Co-chairperson

Held: July 29 - August 2.

1996 Special session on Volcanic Hazards and Aviation: Pan Pacific Hazards '96.

Conveners: T. Spurgeon and C.J. Hickson

Held: August 1.

2000 Geological Society of America, Pacific Section Annual General Meeting.

Organizing committee

Held: April 27-29, 2000, Vancouver, British Columbia

2000 Fifth Asia-Pacific conference on Disaster and Emergency Medicine: Theme 3. Sharing Pacific Rim Experience in Disasters (Co-chair with Dr. Michael Schull, University of Toronto, "Drs without Borders").

Co-chair: M. Schull and C.J. Hickson

Held: Sept. 28-30, Vancouver, British Columbia

2003 Vancouver '03, Geological Association of Canada/Mineralogical Association of Canada Joint Annual Meeting.

General Chairperson

Held: May 25-28, 2003

2006 Multinational Andean Project: Geoscience for Andean Communities Community Communications workshop (case study reports).

Co-organizers: C.J. Hickson, F Munoz Carmona, M. Ellerbeck

Held: January 28, 2006, Quito Ecuador

2007 Multinational Andean Project: Geoscience for Andean Communities: Volcanic Hazard Mapping Workshop.

Co-chairs and organizers: C.J. Hickson and M. Calvache

Held: March 12-15, 2007 Puerto Varas, Chile

2007 Multinational Andean Project: Geoscience for Andean Communities: Hazard Mapping Workshop.

Co-chairs and organizers: C.J. Hickson, R. Hermanns and M. Jaramillo

Held: July 2-6, 2007 Quito, Ecuador

h) invited symposia/special session and workshop lectures:

- 1990/05 The May 18, 1980 Eruption of Mount St. Helens, Washington State: A Synopsis of Events and Review of Phase I from an Eyewitness Perspective. Geoscience Canada, v. 17, p. 127 131, May 1990.
- 1990/05 The May 18th, 1980 Eruption of Mount St. Helens, Washington State: An Eyewitness Perspective, Program with Abstracts, Geological Association of Canada, Annual General Meeting, Vancouver, British Columbia, May 16-18, 1990, p. A57.
- 1991/02 *Volcanism in the Canadian Cordillera: What to Expect*. Geological Hazards Workshop, February 20-21, 1991, Program with Abstracts, University of Victoria, Victoria, British Columbia.
- 1991/05 *Quaternary Volcanism in the Canadian Cordillera*. GAC/MAC Joint Annual Meeting, Program with Abstracts, May 27-29, 1991, Toronto, Ontario.
- 1991/07 Holocene Volcanism in the Canadian Cordillera. First International Symposium on Volcanic Ash and Aviation Safety, Program and Abstracts, July 8-12, 1991, Seattle, Washington.
- 1991/09 Volcanism in the Howe Sound Drainage Basin: Hazards from the Garibaldi Volcanic Belt. Howe Sound Environmental Science Workshop, Program with Abstracts, September 30-October 3, 1991, Bowen Island, British Columbia, p.17-33.
- 1992/05 *Volcanism in the Canadian Cordilleran Should we worry?* Keynote Address, Geohazards '92, First Canadian Symposium on Geotechnique and Natural Hazards, Vancouver, British Columbia, May 6-9, 1992.
- 1993/04 *Volcanism in the Cordillera*. Mineral Resources Development Unit, UBC, Short Course 4, Volcanoes and Ore Deposits, April 26-28, 1993.
- 1994/03 Panel Presentation. XX Evening, Science World. *How to Network*. Society for Canadian Women in Science and Technology, March 21, 1994.
- 1995/05 Character of Volcanism, Volcanic Hazards and Risk: Northern End of the Cascade Magmatic Arc. Geological Hazards and Mitigation Symposium, GAC/MAC Annual General Meeting, May 17, 1995. Program with Abstracts.
- 1996/08 Volcanic Ash and Aviation Safety The Importance of Timely Communication and Ongoing Education. Special Session on Volcanic Hazards and Aviation; Pan Pacific Hazards Conference, Vancouver, British Columbia, July/August 1996.
- 1996/11 *Geoscience Education*; Joint Meeting of the Science Teachers Association of Canada and the United States, Toronto, November 21, 1996.
- 1997/05 Volcanic Hazard Maps Past, Present and Future. Symposium on Geoenvironmental Mapping, Ottawa '97, Geological Association of Canada/Mineralogical Association of Canada Annual Meeting, Ottawa, Ontario, May 19-21, 1997.

- 1997/05 Volcano Watch! Two Hundred Years of Volcanic Science. Symposium in Celebration of 50 Years of Geoscience Research in Canada; Ottawa '97, Geological Association of Canada/Mineralogical Association of Canada Annual Meeting, Ottawa, Ontario, May 19-21, 1997.
- 1997/05 *Volcanic Hazard Mapping.* Special Symposium on Geoscience Mapping; Ottawa '97, Geological Association of Canada/Mineralogical Association of Canada Annual Meeting, Ottawa, Ontario, May 19-21, 1997.
- 1997/10 *Geological Mapping in the Canadian Cordillera*. Special Symposium on Geological Mapping: Past, Present and Future; Geological Society of America, Annual Meeting, October 20-23, 1997, Salt Lake City, Utah.
- 1998/05 Jargon-free Geoscience Literature and Its Application to the Broader Community. Special Symposium on Geoscience Education; Geological Association of Canada/Mineralogical Association of Canada, Joint Annual Meeting, Quebec '98, Quebec City, Quebec, May 18-20, 1998.
- 1999/10 *Mapping in Volcanic Terrains: Products and Processes*. Three-day workshop for Barrick Gold, La Serana, Chile. September 27-29, 1999. Co-presented with Dr. J.K. Russell, UBC.
- 1999/11 *Mapping in Volcanic Terrains: Products and Processes*. Three-day workshop for Minera, ABX Exploraciones S.A. (Barrick) Lima/Huarez, Peru, October 4-6, 1999 followed by 1.5 days of field work. Co-presented with Dr. J.K. Russell, UBC.
- 1999/12 *Mapping in Volcanic Terrains: Products and Processes*. Five-day workshop for INGEMMET, Lima, Peru, December 6-10, 1999. Co-presented with Dr. J.K. Russell, UBC.
- 2000/04 *Mapping Volcanic Terrain: Products and Processes*. Five-day workshop for INGEMMET, Lima, Peru, April 10-15, 2000. Co-presented with Dr. J.K. Russell, UBC.
- 2000/05 Volcanoes in Canada A Review. Symposium on Natural Hazards; Geological Association of Canada/Mineralogical Association of Canada, Joint Annual Meeting, Calgary 2000 (GeoCanada 2000), Calgary, Alberta, May 29-June 2, 2000.
- 2000/08 *Multinational Andean Project Accomplishments*. Symposium on Multinational Andean Project; IX Chilean Geological Congress, Puerto Varas, Chile, July 31-August 7, 2000.
- 2000/09 Volcanoes and Their Potentially Devastating Effects: Case Studies from the Pacific Ring-of-Fire. Special Theme Session Sharing Pacific Rim Experiences in Disasters. Fifth Asia-Pacific Conference on Disaster and Emergency Medicine, Prehospital and Disaster Medicine, September 28-30, 2000 (talk presented Sept. 28) (approx. 60 attendees).
- 2000/10 *The "Interagency Volcanic Event Notification Plan IVENP*", Justice Institute of British Columbia, part of a Special Workshop developed for 35 visiting emergency planners from Italy, October 3, 2000. (approx. 45 attendees).
- 2001/04 *Turning Data into Knowledge*. Special Session on Geoscience Organizations. ProExplo, Lima, Peru, April 26, 2001.
- 2001/10 *Multinational Andean Project Project Overview and Accomplishments*, Presented as part of the Symposium on International Joint Projects (Lic. Roberto Page and Eng. Ricardo Troncosso, Chairs), XI South American Geological Congress, Montevideo, Uruguay.
- 2002/11 *Multinational Andean Project: Geoscience for Andean Communities*, Presentation as part of The Contribution of Geoscience to the Sustainable Development of Developing Countries Emphasis on Groundwater and Hazards, ESS organized workshop, Ottawa, Camsell Hall, November 22, 2002 (approx. 75 people).
- 2003/03 Multinational Andean Project, Geomatics Special Session, Americana 2003, Montreal, Quebec, March 21, 2003.
- 2003/11 Subglacial Volcanism in Southwestern British Columbia (presented by Ms. Melanie Kelman), Geological Society of America Meeting, Seattle Washington Special Session on the Cascade Magmatic Arc.
- 2004/03 Multinational Andean Project: Geoscience for Andean Communities and the Incorporation of Geological Hazards into Emergency Management. International Seminar on Risk Management as a Sustainable Development Factor of Human Scale, CEPAL (ECLAC), Government of Chile, Office of National Emergency, Ministry of the Interior, (Dr. Alberto Maturana) March 24-25, 2005.
- 2004/05 Overview of Natural Hazards: Types and Sources of Information, Training course in incorporation of natural hazard risk management in development programmes and projects. Organized by the Organization of American States Unit for Sustainable Development and Environment for the World Bank through its Hazards Management Unit. (Steven Bender), Washington, USA, May 11-15, 2004.
- 2005/03 Surviving the Stone Wind: Twenty-five Years of Study at Mt. St. Helens, Great Explorations, University Women's Club of Walla, Special Workshop for Grade 7 Girls, keynote speaker, luncheon guest speaker and resource expert for teachers and parents. March 26, 2005.
- 2005/05 Surviving the Stone Wind, Eyewitness Symposium Commemorating the Twenty-fifth Anniversary of the Eruption of Mt. St. Helens, jointly organized by the Mt. St. Helens Institute, Mt. St. Helens National Monument, and the United States Geological Survey, May 14, 2005 (approx. 200 people).

- 2005/05 *Linking Science and Communities*, National Geological Services Forum, International Congress for Prospectors and Explorers ProExplo 2005, Lima, Peru, May 25-27, 2005.
- 2005/05 The Benefits of Regional Standards for Knowledge Sharing (or Confronting the Digital Elephant), National Geological Services Forum, International Congress for Prospectors and Explorers ProExplo 2005, Lima, Peru, May 25-27, 2005.
- 2005/06 Plenary Speaker: *Witness to History, the May 18, 1980 Eruption of Mt. St. Helens*, International Conference on Landslide Risk Management, UBC, Vancouver, British Columbia, June 1, 2005 (approx. 150 people).
- 2005/08 *Natural Hazard Mitigation in South America's Andean Nations* in session: "S10.01 Progress in International Geoscience Projects", 32nd International Geological Congress, Florence Italy, August 24, 2004.
- 2005/12 Reducing Risk from Natural Hazards a New ESS Program, Railway Ground Hazard Research Program Workshop, Edmonton, Alberta, December 8, 2005 hosted by the Centre for Risk Assessment for Geohazard Studies (CRAGS) (45 attendees).
- 2006/03 Disaster, Risk and Communities Getting the Message Across; Experiences from the Americas, 66 Annual meeting of the Society for Applied Anthropology, March 28-April 2, 2006, Vancouver, BC. Special invited session "Anthropology, Others, and Catastrophes: Lessons from Kosovo to Katrina".
- 2006/10 Recent Volcanism in Canada and Associated Volcanic Hazards, Simon Fraser University (70 students).
- 2007/10 Transforming Hazard Knowledge into Action at the Community, Regional and National Levels Experiences from South America and Canada. Thursday, Nov. 8th Plenary Address, Canadian Risk and Hazard Network, 4th Annual Symposium, Richmond, British Columbia, Canada, November 6-8, 2007.
- 2012/03 Affordable World Security Energy Matters, Washington DC, March 27-28, 2012.
- 2013/11 GeoPower Latin America; Geothermal Energy as an Engine for Regional Development and Social Progress, Panel discussion, Santiago, Chile, November 13-14, 2013.
- 2013/12 Helmholtz Institute & University of Alberta working group (U15-U-20 Innovative Geothermal Development) on cooperative research on Geothermal Energy, U of A, Edmonton, Alberta, December 6, 2013.
- Helmholtz Institute & University of Alberta working group (U15-U-20 Innovative Geothermal Development) on cooperative research on Geothermal Energy, Aachen, Germany, March 6-7, 2014.
- Celebration of the Career of Dr. James Moore, USGS retired. *Ring side seat to history: The May 18th, 1980 eruption.* Lake Tahoe, California
- 2016/12 *Direct-use Geothermal Resources in British Columbia*, Series of 10 Webinars, http://www.bcgeoheat.com/learning-modules part of contract for Geoscience BC.
- 2018/02 Williston Basin Geothermal Considerations Incubator workshop "Where is Geothermal in Canada?", Grand Forks, ND, February 15 16, 2018
- 2018/10/15 Geothermal Resources Council International Country update "Moving geothermal in Canada Forward", Reno Nevada
- 2018/11/23 Yellowknife Geothermal Workshop, "Moving Geothermal Forward in Canada", Yellowknife, NWT
- 2019/01/29 Association of Mineral Exploration (British Columbia), Energy workshop for educators "Geothermal Energy, development of a commercially viable geothermal project in Canada", Vancouver, BC
- 2019/09/ Geothermal Resources Council International Country update "Kick starting an industry: Geothermal in Canada", Palm Springs, California
- 2020/01 WISE Waterloo Institute for Sustainable Energy, presenter, and panellist Alberta No. 1 Geothermal Project, ; Kickstarting the Industry in Canada, University of Waterloo, Ontario, January 23-24, 2020
- 2020/10/08 Making geothermal commercially viable in Canada: Alberta No. 1, Alberta's First Conventional Deep Geothermal Energy Project, Keynote address, EGW 2020 8th European Geothermal on-line Workshop, October 8, 2020.
- 2021/02 Avatar Innovations, coach and mentor for geothermal, February March 2021 sessions. https://www.avatarinnovations.energy/
- 2021/03 Transformathon https://www.transformathon-hack.com/ multiday on-line presentations, working group and team presentations. March 1 7, 2021.

i) lectures:

- i. invited professional lectures and webinars:
 - 1987/03 Pyroclastic Flows and Surges: The Debate Continues. Geological Association of Canada, Pacific Section, March 3, 1987.
 - 1988/02 Neogene Felsic Volcanism on Graham Island: Potential for Epithermal Gold. Cordilleran Geology and Exploration Roundup, British Columbia and Yukon Chamber of Mines, Vancouver, B.C., February 2, 1988.

- 1988/11 Masset Formation, Graham Island. Frontier Geoscience Review Workshop: Queen Charlotte Basin, November 22-23, 1988.
- 1989/01 Potential for a Major Volcanic Eruption in the Canadian Cordillera and Possible Environmental Effects. Geological Survey of Canada, "Ottawa Forum", January 16-18, 1989, Ottawa, Ontario.
- 1989/04 The Queen Charlotte Islands, A Personal Perspective. Association of Women Geoscientists, Pacific Chapter, April 15, 1989.
- 1989/12 Tertiary Volcanism in the Queen Charlotte Islands. Department of Geological Sciences, December 1989, University of British Columbia, Vancouver, B.C.
- 1990/03 The Miocene Masset Formation on Graham Island, Queen Charlotte Islands. United States Geological Survey, Alaska Branch, Anchorage, March 9, 1990.
- The Continuing Eruptions at Mount Redoubt, Cook Inlet, Alaska. Department of Geological Sciences, University of British Columbia, March 30, 1990.
- 1990/06 Adventure at Mount St. Helens, May 18, 1980, and an Eclectic View of Volcanism in Canada (Or: Yes, Virginia, There are Volcanoes North of the Border). United States Geological Survey, Branch of Igneous and Geothermal Processes, Menlo Park, California, June 6, 1990.
- 1990/09 Volcanic Processes and Landforms. Geomorphology, Department of Geological Sciences, University of British Columbia, September 26, 1990.
- 1990/10 GSC Activities in Frontier Hydrocarbon Basins of the Cordillera. Oil Industry Days at UBC, UBC Geological Sciences/Industry Liaison Meeting, UBC, October 18 and 19, 1990.
- 1990/12 Quaternary volcanism in the Canadian Cordillera. Geological Society of Saskatchewan, Regina, December 5, 1990.
- 1991/10 Pyroclastic Surges and Flow: What are They and What are the Implications for Hazard Zonation? UBC, Department of Geological Sciences, Igneous Petrology 302, October 10, 1991.
- 1991/10 Mt. St. Helens: a 10 Year Retrospective. UBC, Department of Geological Sciences, October 10, 1991.
- 1992/02 Volcanic Hazards: What are They? UBC, Department of Geography, Natural Hazards (GEOG 316), February 10, 12 & 14, 1992.
- 1992/09 Volcanic Hazards: What are They? UBC, Department of Geography, Natural Hazards (GEOG 316), September 14-16-18, 1992.
- 1993/01 Aircraft Safety and Volcanic Eruptions, Vancouver International Airport Authority, Richmond, January 12, 1993.
- 1993/01 Volcano Response Planning: A Federal-Provincial, Multi-agency Initiative. Geological Survey of Canada, Ottawa Forum, Ottawa, January 20, 1993.
- 1993/03 Volcanism in the Canadian Cordillera, the Forgotten Segment of the "Ring of Fire". Simon Fraser University Quaternary Research Centre, March 11, 1993.
- Engineering Aspects for the Mitigation of Volcanic Hazards. UBC, Department of Civil Engineering; Natural Hazards Engineering (CEME 1215), March 17, 1993.
- 1993/11 Volcanic Hazards: An Introduction. UBC, Department of Geography, Natural Hazards (GEOG 316), November 8, 10, and 12, 1993.
- Tuyas to Trachyte: Volcanism in British Columbia. University of Western Washington, Bellingham, Washington, November 18, 1993.
- 1994/03 Quaternary Volcanism in British Columbia the Forgotten Piece of the Ring of Fire. Simon Fraser University, Institute for Quaternary Research, March 11, 1994.
- 1994/04 Details of the 2400 B.P. Eruption of Mount Meager. Canadian Geothermal Association Annual General Meeting, April 7, 1994.
- 1994/04 Quaternary Volcano Data Base Application to Hot Springs? Canadian Geothermal Association Annual General Meeting, April 7, 1994.
- 1994/08 Volcanoes, the Hazard We Forget. Seventh Annual Emergency Preparedness Conference, Vancouver B.C., October 17-19. 1994. (Given in my absence by Mr. T. Spurgeon)
- The Northern Segment of the Cascade Magmatic Arc. Canadian Geothermal Association Annual General Meeting, April 25, 1995.
- 1994/10 Volcanic Hazards: An Introduction. UBC, Department of Geography, Natural Hazards (GEOG 316), October 2 and 4, 1995.
- 1995/10 What's hot in BC! A Review of Volcanism Along the Canadian Segment of the Pacific Ring of Fire. Pacific Section, Geological Association of Canada, October 24, 1995 (approx. 60 attendees).
- 1996/02 Potential Hazards and Risks from an Eruption of Mount Baker. Workshop for Emergency Social Services,

- Abbotsford, February 21, 1996 (approx. 60 participants).
- 1996/05 Volcanism in British Columbia. Special Invited Lecture, British Columbia Federation of Science Teachers, Catalyst Conference May 3, 1996 (approx. 70 participants).
- 1996/06 Potential Hazards and Risks from an Eruption of Mount Baker. Workshop for Emergency Social Services, Langley, June 27, 1996.
- 1996/09 Geology 402; Advanced Volcanology. (September December) Weekly lectures given with Dr. Kelly Russell, University of British Columbia.
- 1997/05 Volcanic Hazards in Canada and Potential Impact on Aviation Safety. Environment Canada/Canadian Meteorological Centre, Short Course for Pacific Weather Centre personnel, May 23, 1997.
- 1997/09 Geology 402; Advanced Volcanology. (September December) Weekly lectures given with Dr. Kelly Russell, University of British Columbia.
- 1997/10 Volcanic Hazards, Department of Geological Sciences, Simon Fraser University, 3rd year Environmental Geoscience class. Dr. Brent Ward instructor, October 1, 2 and 8, 1997.
- The Multinational Andean Project The Beginnings and Where it is Going. British Columbia Yukon Chamber of Mines, with Dr. Steve Gordey, February 12, 1998 (approx. 20 attendees).
- 1998/05 The Multinational Andean Project An example of Best Practices. ESS Best Management Practices workshop, May 13, 1998.
- 1998/10 Volcanic Hazards with Special Reference to the Hazards to Aviation from Ash. Environment Canada, Canadian Meteorological Centre, October 19, 1998 (approx. 60 staff attended).
- 1999/10 Volcanic Hazards. Department of Geological Sciences, Simon Fraser University, 3rd year Environmental Geoscience class. Dr. Brent Ward instructor, October 19, 1999.
- 1999/12 Volcanic Eruptions in Topographically Complex Terrains, a Case Study from Mount Meager, British Columbia, Canada. La Sociedad Geologica del Peru, December 7. Co-presented with Dr. J.K. Russell, UBC (approx. 55 attendees).
- 2000/05 The May 18th 1980 Eruption of Mount St. Helens An Eyewitness Perspective. Lessons and Stories Marking the 20th Anniversary of the Eruption, Mt. St. Helens Institute, May 14, 2000 (approx. 150 attendees, also broadcast on Washington public television network).
- 2001/05 Volcanic Activity in the Pacific Northwest What to Expect from Mount Baker. Presentation to the Langley Municipal Council, Langley, May 8, 2001.
- The Future of Government Science from the Perspective of Access to Highly Qualified Staff. Minister's Council of Industry Advisors to Science and Technology, Victoria, B.C., September 27, 2001.
- 2002/06 Geoscience for Andean Communities An Introduction and Overview. Presentation to ESS staff, Ottawa, June 25, 2002.
- 2002/07 Geoscience for Andean Communities An Introduction and Overview. Presentation to Consuls and contractors, Vancouver, July 5, 2002.
- 2002/07 Geoscience for Andean Communities An Introduction and Overview. Presentation to USGS, Cascade Volcano Observatory, Vancouver, Washington, July 8, 2002.
- 2003/03 Geoscience for Andean Communities. Pegrum Lecture Series, Department of Geology, University at Buffalo, The State University of New York, March 17, 2003 (Dr. Mike Sheridan).
- 2004/11 Volcanic Hazards in Canada. Environmental Geoscience 303, Simon Fraser University (Dr. Brent Ward).
- 2005/01 North America's Hottest Drill Target But Only if You Dare! (the Continuing Eruption of Mt. St. Helens). Exploration Roundup, luncheon speaker, January 24, 2005 (was in SE Asia, lecture was given by Mark Stasiuk, from presentation prepared by C. Hickson).
- 2005/02 Natural Hazards Research with Special Emphasis on Volcanoes and the Recent South East Asia Tsunami. University of Victoria, Earth and Ocean Sciences Undergraduate Student Society, February 1, 2005 (approx. 30 students).
- 2005/04 Plenary Speaker: Surviving the Stone Wind: Twenty-five Years of Studies at Mt. St. Helens. Keynote Banquet Address, 18th Annual Kamloops Exploration Conference, April 12, 2005 (approx. 400 attendees).
- 2005/09 MAP:GAC as a Model for Science Delivery to the Community. Public Safety and Emergency Preparedness Canada, Ottawa, Ontario, September 14, 2005 (10 people).
- The May 18, 1980 Eruption at Mt. St. Helens and Ongoing Activity. 403 class, University of British Columbia, September 20, 2005 (Dr. J.K. Russell) (approx. 35 students).
- Dealing with volcanic hazards and risk, Environmental Geoscience 303, Simon Fraser University, October 28, 2005. (Dr. Lionel Jackson) (approx. 30 students).
- 2006/02 Lessons Learned During 25 Years of Dealing with Natural Hazards. Invited by Dr. Stephanie Chang, UBC

graduate class PLAN 548k Natural Hazards and Society, School of Community and Regional Planning,
University of British Columbia, February 21, 2006 (7 graduate students).

- 2006/03 Risk and Communication of Hazard Information. Special Lecture Series, Environment Canada, Ottawa, Ontario, March 16, 2006 (approx. 40 people)
- 2006/09 Incorporation of Geoscience Information for Risk Assessments. Invited by Ms. Sheena Vivian, Chair, Greater Vancouver Regional District Emergency planners (25 attendees).
- 2006/10 Recent Volcanism in Canada and Associated Volcanic Hazards. Simon Fraser University (70 students).
- 2006/10 Hazard Class. McGill University, John Stix, October 12, 2006.
- 2006/10 Canadian Cascade Volcanism: Subglacial to Explosive Eruptions Along the Sea to Sky Corridor. British Columbia, Invited Lecture, Western Washington University, Bellingham (100 attendees).
- 2007/02 Volcanoes of Canada. Argentinean Survey (SEGEMAR) Geoscience talk series.
- 2007/02 Working with Risk, Implications for Geoscience Surveys. Geological Association of Argentina, Buenos Aires.
- 2007/05 Tseax Volcano A Deadly Eruption in Northern British Columbia. GSA Cordilleran Section, Annual General Meeting, May 4-6, 2007.
- 2010/08 Geothermal Potential in British Columbia. CanGEA Annual General Meeting, August 9, 2010.
- 2011/05 Geothermal 101. Plutonic Power Lunch and Learn, May 31, 2011.
- 2011/06 Geothermal Energy's Place in a Greening World. After Dinner Speaker, Geoscientists of Canada AGM, Vancouver.
- 2013/04 Volcanoes and the Relationship to Geothermal Energy. Vancouver Island University, Hazard class, Nanaimo, BC.
- 2014/01 Global Geothermal Exploration: Volcanoes, Rifts and Hot Spots. University of Alberta, Edmonton, ATLAS talk series, Noon, Friday January 10, 2014.
- 2014/04 Eruptions to Electrons: Global Geothermal Exploration. Western Washington University, Bellingham Washington, April 15, 2014.
- 2016/03 Geothermal Resources: Global and Local Opportunities. Combined geography and ecology classes (Dr. Olav Lian) University of the Fraser Valley, Abbotsford, BC, March 30, 2016.
- 2016/10 Direct-use Geothermal Resources in British Columbia. APEGBC AGM working sessions, October 20, 2016, Victoria BC.
- 2016/09 Direct-use Geothermal Resources in British Columbia. Canadian Geothermal Energy Forum, 2016, Calgary, Alberta.
- 2017/02 Direct-use Geothermal Resources in British Columbia. BC Economic Development Division Webinar, February 28, 2017.
- 2017/10 Rumblings Below Earthquakes, Magma and Geothermal Energy in BC's Interior. Geoscience BC TREK Project culminating Symposium "TREKing Through BC's Central Interior", October 17, 2017.

 http://www.geosciencebc.com.update.editmec.com/s/Workshops.asp?ReportID=999999999,803021&ReportIDRef=CB45739K3-RK1K
- Williston Basin Geothermal Considerations Incubator Workshop, Grand Forks, North Dakota, February 15-16, 2018.
- 2018/03 Geothermal Canada A Renewed Opportunity and Rich History. VVSG Spring Meeting, March 17, 2018.
- 2018/03 Natural Occurring Lithium Brines in Internally Closed Basins the Link to Geothermal Systems. Lithium Mineral Exploration in Alberta, March 28, 2018.
- 2018/10 Kickstarting an industry, Geothermal in Canada,
- 2019/04 Stripe Karst Cave in Wells Gray Provincial Park, special presentation, Kamloops Exploration Group Annual Conference, April 6 9, Kamloops, BC.
- 2019/05 University of Regina Geothermal potential, Saskatchewan Geological Association, May 2, 2019
- 2020/01/04 Kickstarting and Industry in Canada, Canadian Society for Unconventional Resources (CSUR), UBC, March 4, 2020
- 2020/01/06 Geothermal prospects in British Columbia, Pacific Energy Innovation Association (PEIA British Columbia), webinar.
- 2020/02 Alberta No. 1 Geothermal Project, Canadian Society of Petroleum Geologists, Calgary, Alberta
- 2020/04/30 Geothermal Energy introduction, Terrapin/Geothermal Canada hosted webinar with Katie Huang 2020/03 Geothermal in Canada about to take a big leap forward fundamentals for oil and gas professionals,
- Canadian Society for Unconventional Resources (CSUR), UBC Chapter, March 4, 2020
- 2020/03 Pioneering Alberta's First Conventional geothermal energy facility, APEGA, Calgary, Branch, March 26, 2020 (webinar) https://www.terrapingeo.com/geo-dev-apega-presentation

2020/04	Waste Heat and Geothermal webinar, Terrapin Geothermics, April 28, 2020 (webinar)
	https://www.terrapingeo.com/waste-heat-to-power-webinar
2020/04	Growing Geothermal: the value of heat, Clean Energy Week, Terrapin Geothermics, April 30, 2020
	(webinar) https://www.terrapingeo.com/geothermal-introductory-webinar
2020/06	How geothermal and oil and gas complement each other, Terrapin Geothermics, June 18, 2020 (webinar) https://www.terrapingeo.com/geothermal-og-webinar-panel-recordi
2020/06	Mt. St. Helens at forty years: a tribute to the work of James G. Moore. Geological Association of Canada, Volcanology Division webinar, June, 25, 2020.
2020/07	Geothermal potential for the USA and Canada, Council of State Governments' Midwest-Canada Energy
2020/07	subcommittee, July 13, 2020
2020/07	Part 1: Direct Heat Use in Lac La Biche Region, Terrapin, Geothermics, July 14, 2020 (webinar) https://www.terrapingeo.com/direct-heat-use-in-lac-la-biche
2020/07	Part 2: Heat to Power in Lac La Biche Region: Geothermal potential, Alberta region Terrapin, Geothermics,
	July 21, 2020 (webinar) https://www.terrapingeo.com/heat-to-power-in-lac-la-biche
2020/09	Geothermal heat and power potential in the eastern USA, Central Michigan University, September 9, 2020
	(webinar)
2021/02	Growing Geothermal Industrial Opportunities; A joint webinar Panel with Grande Prairie Regional College.
	February 11, 2021 (webinar) https://www.terrapingeo.com/gprc-geothermal-industrial-opps
2021/02	Carbonates as they relate to green energy – an overview taken from literature and work experience in the
	Western Canadian Basin, presented by Eva Drivet, Divert Geological consulting, CSPG, Geothermal
	Division, February 11, 2021 (webinar) CSEG YouTube channel:
	https://www.youtube.com/watch?v=X_lwYDu2YGM&t=3s&ab_channel=CSEGMentorship
	https://www.youtube.com/watch?v=FJC6S_WVq3M&ab_channel=CSEGMentorship
2021/03	Alberta No. 1 in the context of building a geothermal industry in Alberta. Canadian Society of Exploration Geophysicists, Emerging Professionals program, Webinar, March 17, 2021.
2021/04	Conventional Geothermal Development Hurdles and Opportunities in Alberta and Canada. Desk to Derrick,
	Alberta Foothills Chapter, webinar, April 6, 2021.
2021/05	Challenges and opportunities facing geothermal in Canada. Geo Energy Europe (GEE) and Canadian Webinar, May 26, 2021
2021/09	Geothermal 101 Course: Conventional Geothermal Energy Development Meets Oil and Gas, CSUR,
0004/00	webinar, September 7, 2021
2021/09	GEOTHERMAL ENERGY'S ROLE IN AN EVOLVING CARBON REDUCTION WORLD, SPE Aberdeen,
0004440	webinar, September 28, 2021
2021/12	Geothermal Essentials: Moving Geothermal Forward in Canada, Geothermal Canada Lecture Series, webinar, December 8, 2021, January 26, 2022, February 2, 2022, March 23, 2022, March 30, 2022, and
	April 6, 2022
2022/01	Making it Real Panel Session, Geothermal Seminar 2022, SPE Aberdeen, webinar, January 25, 2022
2022/01	Solutions to reducing fossil fuel emissions: The case for geothermal energy development, Colloquium, UBC
	Department of Earth, Ocean and Atmospheric Science, webinar, January 27, 2022,
	https://www.youtube.com/watch?v=wt1N3Avg41o&t=3901s
2022/06	Hickson, C., Hubbard, B., Smejkal, E., Geothermal in Alberta – The importance of creating a regulatory
	environment conducive to supporting the growth of a geothermal industry, GeoConvention, Calgary, Alberta,
	lune 00 00 0000

ii. public lectures:

This listing is incomplete.

June 20-22, 2022

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1981/02	Mt. St. Helens: A Day to Remember. Friends of the M.Y. Williams Geological Museum, UBC, February
1001/02	int. St. Holono. 71 Bay to Homombor: Homas of the int. 1. Williams Goological Macount, 626, 1 obtains
	1981.

1981/09 The Cataclysmic Eruption of Mount St. Helens. White Rock Lions Club, September 21, 1981.

The May 18th Eruption of Mount St. Helens: What Happened and Why. Rotary Club of North Vancouver, February 1982.

The Where, Why and How of Volcanoes. UBC Continuing Education Summer Program for Seniors, August 1982.

1983/09 Mount St. Helens and the Other Cascade volcanoes. Kiwanis Club of North Vancouver,

- September 21, 1983.
- 1983/08 Volcanoes in Our Backyard. Wells Gray Provincial Park, Summer Activities Program, August 1983.
- 1984/06 Geology for the Uninitiated. Naturalist Training Program, Department of Parks and Outdoor Recreation, Province of British Columbia, June 1984.
- 1984/08 Volcanoes of Wells Gray Provincial Park. Well Gray Provincial Park, Summer Activities Program, August 1984.
- Mount Saint Helens; Four Years After. Friends of the M.Y. Williams Geological Museum, UBC, October 1984.
- 1985/10 Recent Volcanism in the Wells Gray Provincial Park. Langley Field Naturalists, October 1985.
- 1986/01 Volcanoes of British Columbia. Point Gray Mini School, Vancouver, January 21, 1986.
- Mount St. Helens, the Cascades and B.C.'s Forgotten Volcanoes. Space Update 1986, British Columbia Association of Science Teachers (workshop), May 17, 1986.
- 1986/10 Volcanoes of British Columbia. Vancouver School District Teachers Workshop, October 20, 1986.
- 1986/10 Quaternary Volcanism in the Pacific Northwest. Vancouver School District Social Studies Professional Day, October 24, 1986.
- 1987/02 Volcanoes in Our Backyard. The Open Learning Centre, February 11, 1987.
- 1988/10 Volcanoes and Volcanism. Victoria School Board Challenge Program, October 28, 1988.
- 1988/12 Volcanoes and Earthquakes: What's the Connection? Waverley Elementary School Science Classes, December 15, 1988.
- 1989/03 Volcanoes Around the World. Department of Continuing Education, University of Victoria/Royal British Columbia Museum, Part of the Public Information Program for the submersible dives of Jason under the direction of Dr. Ballard, March 15, 1989.
- 1989/10 A Geologist's View of Wells Gray Park. Friends of Wells Gray Park, Annual General Meeting, October 13, 1989.
- How Bad Will B.C.'s Next Volcanic Eruption Be? Vancouver Natural History Society/Geological Association of Canada (Cordilleran Section) Lecture series `Living on the edge', 1989.
- 1989/10 British Columbia's Volcanoes. Point Grey Secondary School, October 24, 1989.
- The Cascade Volcanoes What's Up for Mount Baker? British Columbia Society for Gifted Children, Abbotsford, November 22, 1989.
- 1990/04 Can it Happen Here? Volcanic Eruptions in British Columbia and the Yukon. Geological Association of Canada (Pacific Section), One Day Special Symposium, "A Day in the Life of the Earth: Everything you wanted to know about Earthquakes, Volcanoes and Dinosaurs", April 7, 1990.
- 1990/05 Fire Mountains the Life and Times of Volcanoes and the People Who Study Them. Chilliwack Junior Secondary School, 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, May 3, 1990.
- 1990/10 Volcanoes in Your Backyard -- An Introduction to Volcanoes and How They Work with Special Emphasis on Canadian Examples. Triennial Conference '90 Kids First! Peace River South Teacher's Association, Dawson Creek, October 24-27, 1990.
- 1990/12 Fire Mountains; The Life and Times of Volcanoes in Canada and Around the World. Geological Association of Saskatchewan Newsletter (Special Invited Lecture, approx. 3500 students), December 5-6, 1990.
- 1990/12 Volcanoes, Mud Holes, Mildew and Moose: The Career of a Woman Volcanologist. Saskatchewan Geological Society, J.A. Burnett Education Centre, Regina, Saskatchewan, December 7, 1990.
- Trafalgar School, Vancouver, B.C., 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, February 7, 1991, Grades 2-7 (approx. 300 students).
- Power and Might: Earthquakes and Volcanoes. Lecture series `Natural Hazards in B.C.' sponsored by Geological Association of Canada (Pacific Section), February 13, 1991, Newcombe Theatre, Victoria, B.C., (approx. 350 people).
- 1991/02 Prince Charles Elementary School, Abbotsford, B.C., 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, February 26, 1991, Grades 4-7 (approx. 150 students).
- Margaret Stenerson Elementary School, Abbotsford, B.C., 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, February 26, 1991, Grades 4-7 (approx. 140 students).
- 1991/03 Ross Elementary School, Abbotsford, B.C., 'Scientists in the School Program', Ministry of Advanced

- Education and Job Training and Ministry of Science and Technology, Province of British Columbia, March 11, 1991, Grades 1-6 (approx. 260 students).
- Hatzic Senior Secondary School, Mission, B.C., 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, March 11, 1991, Grades 11-12 (approx. 20 students).
- 1991/04 Chief Mamquinna Elementary School, Vancouver, B.C., 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, April 6, 1991, Grades 3-7 (approx. 250 students).
- 1992/01 Moose, Mud Holes, Mountains and Men. Energy, Mines and Resources Administration, Ottawa, Ontario, January 17, 1992.
- Port Kells Elementary School, Surrey, B.C. `Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, Grade 4, March 11, 1992, (approx. 50 students).
- 1992/04 Windermere School District, 'Scientists in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, three-day visit to 7 schools making 19 presentations to grades K-12, April 8-10, 1992 (approx. 950 students).
- 1992/08 Volcanoes! Evening Lecture, Friends of Wells Gray, August 6, 1992 (15 participants).
- James Gilmore Elementary School, `Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia. Richmond School District, Grades 3-6, October 14, 1992 (approx.150 students).
- 1992/10 Volcanoes and Earthquakes. Abbotsford Learning Plus Society, October 22, 1992 (approx. 60 participants).
- 1992/11 Volcanoes Around Us. Waverley Elementary School, Vancouver, B.C., November 1992, Grade 5 (approx. 60 students).
- 1993/02 Volcanoes of British Columbia. Brock House Society, Vancouver, February 23, 1993 (approx. 75 participants).
- Squamish Elementary School, `Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia. Howe Sound School District, Squamish. Grades 3-7, March 8, 1993 (approx. 250 students).
- 1993/05 Kelowna School District, 'Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia. Westbank and Peachland Elementary Schools, Grades 3-7, May 25-26, 1993 (approx. 300 students).
- 1993/08 Volcanoes! Evening Lecture, Friends of Wells Gray, August 6, 1993 (15 participants).
- 1993/10 More About Volcanoes! Abbotsford Learning Plus Society, Abbotsford, BC, October 14, 1993 (approx. 40 participants)
- 1993/10 All About Volcanoes. Valleyview Elementary School, October 20, 1993. Calgary, Alberta. Grades 3-6; 3 presentations (approx. 200 students).
- 1993/10 Volcanic Hazards and the Impact of Eruptions on the "Global Village". Johnstone Heights Senior Secondary School, Surrey, October 29, 1993 (30 students in Earth Science 11).
- Talk on Earth and the Environment, Kilmer Elementary School, Port Coquitlam, B.C., 3 classes, grades 4-7, 'Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, December 3, 1993 (approx. 60 students).
- 1994/01 Volcanoes! Friends of the Royal BC Museum, Newcombe Auditorium, Victoria, January 21, 1994. (150+ participants).
- 1994/02 Earthquake Preparedness. Langley Central Rotary club and three affiliates, Langley, B.C., February 10, 1994 (approx. 120 participants).
- Talk at West Vancouver Seniors' Activity Centre, February 23, 1994 (approx. 20 participants).
- 1994/02 Volcanoes in Your Backyard. Cougar Creek Elementary School, grades K-7, 'Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, February 25, 1994 (approx. 406 students).
- 1994/03 Volcano Activity Session. Maplewood Elementary School, North Vancouver, Grade 5, `Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia, March 4, 1994 (27 students).
- 1994/05 Volcanoes of British Columbia: An Overview. Vancouver Natural History Society, May 27, 1994 (approx. 80 attendees).
- 1994/06 All About Volcanoes. Ashcroft Elementary School, grades K-7, 'Scientists and Innovators in the School

- Program', Ministry of Advanced Education and Job Training and Ministry of Science and Technology, Province of British Columbia June 6,7,8, 1994 (approx. 273 students in 12 presentations including a field trip to Chasm Provincial Park).
- 1994/06 Volcanoes of British Columbia. Community evening presentation organized by Ashcroft Elementary School. (approx. 30 attendees).
- Mount St. Helens, an Active Volcano. Girl Guides pre-field trip seminar, sponsored by AWG and SCWIST, July 8, 1994 (approx. 30 attendees).
- 1994/07 Volcanoes of Wells Gray Park. Evening Lecture, Friends of Wells Gray, July 17, 1994. (approx. 50 attendees)
- On Volcanoes and Volcanology: A Career Choice for the Not So Faint at Heart. Honours banquet George P. Vanier Secondary School. Courtney, B.C. May 4, 1995 (400 attendees).
- 1996/02 Volcanoes Around the Pacific Rim. Abbotsford Learning Plus Society, February 21, 1996 (approx. 60 participants).
- 1997/06 Earthquakes on the West Coast and Emergency Preparedness. Post 86 Co-operative Housing Project, July 22, 1997 (approx. 60 participants).
- 1997/10 Earthquakes and Volcanoes. Bonsor Senior Citizens Club, October 15, 1997 (approx. 40 participants).
- 1997/11 Volcanism in British Columbia and Yukon (Or Volcanoes in Your Backyard!). Quadra Island Natural History Society, November 28, 1997 (approx. 50 participants).
- 1999/01 Volcanism, a Global Hazard. Pine Tree Senior Secondary School, Grade 12 Geography (30 Students).
- 1999/02 Pacific Rim of Fire: South American Connections. Abbotsford Learning Plus Society. February 24, 1999.
- 1999/04 Volcanology, a View from the Southern Hemisphere. Education Liaison Committee of the Saskatchewan Geological Society "Stars" conference, Keynote speaker presenting the opening address at the conference (approx. 300 participants).
- 1999/10 Volcanology An Example of Real Science for Real Kids! Book launch for APACE, Vancouver Public Library, October 17, 1999 (approx. 60 participants).
- 2000/02 Earthquakes! Living on the Edge. Confederation Seniors Centre, Burnaby, BC, February 22, 2000 (approx. 30 participants).
- 2000/04 Volcanology An Example of Real Science for Real Kids! Jessie Lee Elementary School South Surrey, B.C., June 13, 2000 (3 double classes, approx. 80 students).
- 2000/04 Volcanology An Example of Real Science for Real Kids! Sunny Side Elementary School South Surrey, B.C., June 13, 2000 (5 double classes, approx. 150 students).
- 2001/01 Volcanoes of the Pacific Rim: Canada The Missing Link. Malaspina College, Nanaimo BC, January 17, 2001 (approx. 150 participants).
- Volcanoes of the South Wind: A Volcanological Tour Through the High Andean Mountain Chain of South America. Special invited lecturer as part of the Geological Society of Saskatchewan's outreach program, Sheldon Williams Collegiate, 2 lectures, April 25, 2002 (approx. 500 students) including an informal luncheon talk and meeting with science teachers and approximately 30 senior high students planning a career in science.
- Volcanoes of the South Wind: A Volcanological Tour Through the High Andean Mountain Chain of South America. Special invited lecturer as part of the Geological Society of Saskatchewan's outreach program, Public lecture, Royal Saskatchewan Museum, April 25, 2002 (approx. 75 people in attendance).
- Volcanoes of the South Wind: A Volcanological Tour Through the High Andean Mountain Chain of South America. Special invited lecturer as part of the Geological Society of Saskatchewan's outreach program, Miller Catholic High School, 2 lectures, April 26, 2002 (approx. 1200 students) including an informal luncheon talk and meeting with science teachers and approximately 40 senior high students planning a career in science.
- Women in Earth Science: An Explosive Beginning. Douglas College (New Westminster) Women Speak lecture series, October 29, 2002 (approx. 25 people).
- 2005/01 Anmore Elementary School, Anmore, BC, 6 classes, grades K- 5 (approx. 135 students).
- 2005/01 Alex Hope Elementary School, Langley, BC, 6 classes, grades 2-6 (approx. 140 students).
- 2005/05 Mt. St. Helens, Surviving the Stone Wind. Geological Association of Canada, Cordilleran Section sponsored public lecture, May 18, 2005, Main Library, Vancouver, BC. (approx. 90 people).
- 2005/05 Twenty-Five Years of Memories Mt. St. Helens. Sponsored by the City and Township of Langley Emergency Preparedness Program, May 29, 2005, Langley, BC. (approx. 75 people).
- North Otter School, Langley, combined grades 4-6, May 19, 2005 (approx. 100 students).

- 2005/09 Surviving the Stone Wind: A Personal Account of the May 18, 1980 Eruption of Mt. St. Helens. Explorers Club, Canadian Chapter General Meeting, Saltspring Island, BC, Sept 18, 2005 (approx. 25 people).
- 2005/10 Volcanoes of Canada. Science and Technology Week school groups, Sept. 19-21, 2005 (3 groups approx. 30 students each).
- 2005/10 Mt. St. Helens Career Direction. Plenary Speaker, Science and Technology Week, Ottawa, Ontario, Opening address, October 14, 2005 (approx. 50 people).
- 2005/10 Volcanoes and Earthquakes. Elmwood Girls School, October 19, 2005 (approx. 330 students).
- 2006/02 Physical Geography of the Fraser Valley with a Focus on Earthquakes, Landslides and Volcanoes. ElderCollege, University of the Fraser Valley, February 21, 2006, Chilliwack campus (approx. 45 participants).
- Fire and Ice: Understanding Our Volcanic Heritage. Langley Heritage Society, Langley, February 28, 2006 (approx. 50 participants).
- 2006/04 University Hill School, April 7, 2006 (approx. 150 students).
- 2006/10 A series of presentations to 5 schools in the Prince George region over a 4-day period (October 16-19, 2006). Approximately 750 students were spoken to. The series was organized by the "Exploration Place" for Science and Technology Week.
- 2006/10 Volcanoes of Northern British Columbia. Invited presentation, Prince George Exploration Place October 17, 2006 (approx. 70 attendees).
- 2007/03 Scientists and Innovators in the Schools "Opening the Door Event", Richmond, BC (approx. 150 students).
- 2007/05 Volcanoes! Yours to explore! Diamond Elementary School, Cloverdale, Scientists and Innovators in the Schools, May 14, 2007 (approx. 50 students).
- 2007/05 B.C.'s Secret World of Volcanoes or Fire and Ice in Your Backyard. Courtney and District Museum, May 10th, 2007 (approx. 70 attendees).
- 2007/05 Where's the Nearest Volcano to You? Village Park Elementary School, May 10, 2007, Comox, BC (approx. 150 students).
- 2007/05 Mount Baker on the Skyline! What Does It Mean for You? Admiral Seymour Elementary School, Vancouver, BC (approx. 45 students).
- 2007/10 Vernon Christian School, 5 classes, October 16, 2007 (approx. 120 students).
- 2007/10 Cherryville school, 3 classes, October 15, 2007 (approx. 50 students).
- 2007/10 Vernon Science Centre, Public lecture followed by volcano workshop, October 13, 2007 (approx. 90 people).
- 2007/11 Nazko Elementary School, 2 classes, November 15, 2007 (approx. 30 students).
- Fire and Ice. AAPEGA special invited lecture to Edmonton School District, Edmonton Jubilee Auditorium, November 1, 2012 (approx. 1800 students).
- 2011/11 Making Power from the Earth Volcanoes and Electricity. Canadian Society of Petroleum Geologists Honorary Address, Edmonton Jubilee Auditorium, November 2, 2012. (approx. 500 people)
- 2012/03 Edgewood Blue. The Land Conservancy (TLC) Annual General Meeting, keynote address, March 11, 2012.
- 2012/05 Special Places. The Land Conservancy (TLC), Inspiring Women's luncheon, keynote address, May 14, 2012.
- 2013/04 Vulcan's Fire Taming the Fury. Vancouver Island University, April 9, 2013 (approx. 60 people).
- 2014/01 Exploration for Geothermal Energy. MineralsED Teachers Day, Cordilleran Roundup, Vancouver, BC, January 30, 2014 (20 participants).
- 2014//01 Eruptions to Electrons The Search for Geothermal Energy. Sponsor: Kamloops Exploration Group, Kamloops, BC, January 23, 2014 (approx.150 people).
- 2014/07 Wells Gray Volcanic Visions. July 28, 2014 (approx. 20 participants).
- 2014/09 Out of the Northwest Passage. A series of 5 "presentations" for Adventure Canada on various aspects of the geology and geography of Greenland and the Canadian Arctic.
- Series of 10 "conversations" for Seabourn Cruises on various aspects of the geology and geography of Antarctica, December 2014 to January 2015.
- 2015/01 Does British Columbia have Volcanoes? Cordilleran Roundup Public presentations, Vancouver, BC, January 30, 2015 (approx. 40 participants).
- Nazko Elementary School Volcanoes and Heat from the Earth, May 19, 2015 (the whole school of about 30 students from grades 1 to 7).
- 2015/06 Geothermal Energy: Understanding and Opportunities. Nazko Community, May 19, 2015 (approx. 25 participants).

2015/06	Geothermal Energy: Understanding and Opportunities. Quesnel Community May 20, 2015 (approx. 10 participants).
2015/06	Volcanoes! Correlieu High School, Quesnel, BC, May 20, 2015 (approx. 30 participants).
2015/08	Heart of the Arctic. A series of 5 "presentations" for Adventure Canada, on various aspects of the geology
	and geography of Greenland and the Canadian Arctic.
2015/09	Series of 5 "conversations" for Seabourn Cruises on Geological Influences on Civilization, Greece and
2010/00	Turkey.
2015/12	Series of 5 "conversations" for Seabourn Cruises on various aspects of the geology and geography of
2010/12	Antarctica, December 2015 to January 2016.
2016/01	Volcanoes of British Columbia – Hot Rocks in Your Backyard. MineralsED Teachers Day, Cordilleran
2010/01	
2016/02	Roundup, Vancouver, BC, January 26, 2016 (40 participants).
2016/02	Series of 5 "conversations" for Seabourn Cruises on various aspects of the geology and geography of
0040/00	Antarctica.
2016/03	An Adventurous Life on a Path Less Travelled: From Exploding Volcanoes to Glaciers. President's invited
0040404	lecture, University of the Fraser Valley.
2016/04	Wells Gray – Volcanic Gem of the Cariboo Mountains. April 6, 2016 Clearwater and April 7, 2016 Kamloops
	BC. Sponsored by Kamloops Exploration Group.
2016/05	Mount St. Helens – Thirty-six Years and Counting. Nevada Petroleum and Geothermal Society May 5th
	Dinner Meeting, Reno, Nevada.
2016/06	Series of 5 "conversations" for Seabourn Cruises on Geological Influences on Civilization, Greece and
	Turkey.
2016/08	Into the Northwest Passage. A series of 5 "presentations" for Adventure Canada on various aspects of the
	geology and geography of Greenland and the Canadian Arctic, August 26 – September 11, 2016.
2016/12	Remembering Mt. St. Helens – Where Were You? Geological Society of Nevada, Christmas Gala dinner
	address, Reno, Nevada, December 14, 2016.
2017/01	Series of 3 "conversations" for Seabourn Cruises on Geological Influences on the South China Sea.
2017/07	Series of 3 "presentations" for Adventure Canada, on the geology and geography of Newfoundland and
	Sable Island, July 5 – 13, 2017.
2018/02	The Best Lithium Brine Prospect in North America. The MoneyShow, Orlando, Florida, February 10, 2018.
2018/10	EGBC Vancouver Branch Panel Discussion: Why do Women Leave Engineering and Geoscience and How
	to Empower Women Professionals in Their Careers? October 22, 2018, Vancouver, BC. Panelists: Dr.
	Catherine Hickson, Dr. Maria E. Holuszko, Lindsay Steele, Michelle Revesz
2018/10	EGBC Vancouver Branch Panel Discussion: Life Lessons Every Professional Should Know. October 28,
_0.0,.0	2018, Vancouver, BC. Panelists: Mike Currie, Catherine Hickson, Lianna Mah, Andy Mill, Vancouver, BC
2019/01	Great Cave Discovery in Wells Gray Provincial Park, Kamloops Exploration Group, Kamloops, BC, January
2010/01	9, 2019,
2019/01	Great Cave Discovery in Wells Gray Provincial Park, Wells Gray Wilderness Society, Clearwater, BC,
2010/01	January 11, 2019
2019/02	The Third Wonder of Wells Gray Provincial Park – a Great Cave, Simpow First Nations, Barriere, BC.
2013/02	February 7, 2019
2019/04	Where is all that hot water below your feet? The Geothermal potential of Saskatchewan, Geological
2013/04	Association of Saskatchewan Public Lecture Series, April 29, 2019
2019/04	Geothermal energy, unleashing the potential of heat below. Geological Association of Saskatchewan
2013/04	
2010/06	School Program Lecture Series April 30, May 1 (700 students over two days)
2019/06	Geothermal Canada, Ottawa meetings, "Geothermal Energy in Canada "Unlocking the Potential", Ottawa,
0000/40	Ontario
2020/10	Geothermal growing in Alberta, Walk the Talk lecture series, Devon, Alberta, October 7, 2020 (webinar)
2021/01	Remembering Mt St Helens – forty years of advancement in volcanology. Sponsor: Kamloops Exploration
0004/00	Group, Kamloops, BC, January 14, 2021 (webinar).
2021/02	Energy Transition in an Oil and Gas World: The Alberta No. 1 story
2021/03	Geothermal energy in the energy transition, Green Party Alternative Energy Forum series, March 2, 2021,
	hosted by Yuliana Proenza (webinar)

iii. media contacts:

- 1989/09 CTV Noon Hour News; "Nature Wells Gray" and the volcanoes of Wells Gray Park. September 1, 1989.
- 1990/01 CBC News World (National all news television station on cable TV, Whit Fraser); Pacific Ring of Fire connection between volcanoes and earthquakes. January 10, 1990, 18:30 all time zones.
- 1990/05 CBC News World (National all-news station on cable TV, Whit Fraser); "Mount St. Helens 10 Years After". May 18, 1990, 19:30 in all time zones. (contact: Bill Currie).
- 1990/07 Careers in Geology, Department of Geological Sciences, University of British Columbia video tape. July 1990.
- 1991/02 CBC The Kid Zone; 7-minute video, "On Being a Geologist". February 1991.
- The Weather Network; "Earthwatch", "Volcanoes and Their Impact on People, the Weather, and Jet Aircraft", filmed as three segments aired November, December and January.
- 1994/05 CTV (National) News; CANATEX 2 Earthquake exercise. Brief interview on CTV National News. May 10, 1994.
- 1994/05 CTV (local); Docudrama with Tony Parsons. CANATEX 2 Earthquake exercise.
- 1994/10 Paramount Communications Group, National (USA) TV; "I Was There" on The Leeza Show. Aired October 31, 1994.
- 1996/01 Knowledge Network (British Columbia); "Cathie Versus the Volcano". 2-hour program aired first January 2, 1996.
- 1996/05 Discovery Channel (National TV); "The Anniversary of the Eruption of Mount St. Helens". 2-hour program aired first May 20, 1996.
- 1997/02 CBC TV (National) Morning show; Review of film "Dante's Peak". February 6, 1997.
- 1997/06 Rogers TV, Mountain Road Productions; video on the Geological Survey of Canada.
- 1997/08 CBC TV (National); "The Lead" a 2-hour CBC Newsworld program broadcast live August 5, 1997. Focus of the program was ongoing activity at Soufriere Hills Volcano, Montserrat.
- 1997/10 CTV-Alberta, King Motion Pictures; "Evolution of the Prairie Landscape".
- 1998/02 CTV (National); The Vicki Gabareau Show. Morning show aired nationally.
- 1998/10 CinaNova Productions (Toronto) for The Learning Channel; "Volcano Alert", shot on Mt. Baker April 27, 1998. Aired October 1, 1998.
- Mudslide Principle Films Ltd. (London) for the Learning Channel; shot at Mt. St. Helens, June 1, 1999, aired internationally (US and Canada) on TLC, January 8, 2000, 8:00 EST. Aired in Europe, December 1999.
- 2000/03 Landslides (London) for the Learning Channel, shot at Mt. St. Helens, March 30, 2000.
- 2000/03 Volcanoes (London) for the Learning Channel, shot at Mt. St. Helens, March 30, 2000.
- 2000/05 Mount St. Helens 20th anniversary event. Did media interviews for CBC TV, CTV, Global, CBC Radio (Vancouver) and CBC radio (Calgary).
- 2001/06 The Discovery Channel "Discovery@ca" with Jay Ingram. Comments on volcanologists and their work. June 27, 2001.
- 2003/11 "Countrywide" CBC TV interview on the possibility of volcanic eruptions in British Columbia, Marilyn Maki reporting. Taped November 24, 2003.
- 2004/09 From September 29 to the middle of October, more than 100 media interviews were given regarding the resurgence of activity of Mt. St. Helens. There were interviews from all major TV channels in Canada, including ABC and NBC, Good Morning America.
- 2005/005 During the month of May, numerous media interviews were given regarding the 25th anniversary of the May 18, 1980 eruption of Mt. St. Helens.
- During the month of May, numerous media interviews were given regarding the eruption of Mount Merapi, Indonesia (Global, CTV CBC, CNN).
- 2006/10 PG/TV the local CBC affiliate in Prince George. Focus was on science and technology activities being supported by the Exploration Place including the school visits and a public lecture.
- Numerous media (radio and television) interviews were given regarding the seismic swarm in the vicinity of Nazko Cone, central British Columbia, October-November 2007. There were interviews from all major television channels in Canada, as well as newspaper and radio coverage.
- 2008 2013 On-going interviews (2 or 3 a year) on various volcanoes around the world when they erupt and impact people and property.
- 2014/02/14 CTV News Channel; "The Eruption of Kelut Volcano, Indonesia".
- 2014/08/22 CTV Canada AM; "Pending Eruption of Bárðarbunga Volcano, Iceland".
- 2014/09 CTV News World and National News Contact: Matt Leroux Chase, Producer. September 26-27, 2014.

- 2018/12 Global BC. "Massive, Unexplored 'Cave of National Significance' Discovered in B.C. Park" by Simon Little. December 2, 2018. https://globalnews.ca/news/4720734/massive-unexplored-cave-of-national-significanceb-c-park/ 7 min. 2018/12 CTV News. "Newly discovered cave in B.C. park might be the largest in Canada" with Hina Alam (Canadian Press) December 3, 2018. https://www.ctvnews.ca/sci-tech/newly-discovered-cave-in-b-c-park-might-bethe-largest-in-canada-1.4201902 1.5 min. CBC News Kamloops. Cave discovery, December 3, 2018 2018/12
- 2018/12 CNN. Cave Discovery, December 3, 2018. 2019/05 CityTV. Volcanic Eruption May 23, 2019. 2019/08 Various Edmonton based stations on the announcement of federal funding for Alberta No. 1
- 2020/04 Release of scientific paper on British Columbia Cave discovered in 2018 – CBC and CTV. 2020/06
- Mount St. Helens 40th Anniversary Special, Discovery Channel (filmed September 12 14, 2019), aired on National Geographic Channel June 9, 2020 filmed and produced by Off the Fence Productions 20 Elmdale Road, Bristol, BS81SG, United Kingdom
- 2021/05 This Overlooked Energy Source Could Supply 50% of Electricity, CNBC, https://www.youtube.com/watch?v=q0sHVsC1cF4, May 6, 2021
- 2021/05 Women Club of the North. The **Explorers** Canada Chapter, https://www.youtube.com/watch?v=g6FKgnGrFwo, May 11, 2021
- 2021/06 Discovery Education – Becoming a Volcanologist
- 2021/10 The Training Ground, Global New Weekend, https://www.voutube.com/watch?v=NzOXcpxPgVI. October 23, 2021

Audio (This listing is incomplete.)

- 1989/08 CBC radio re: "Nature Wells Gray" and the volcanic aspects of the park, August 17, 1989.
- 1989/10 Mountain FM radio re: "Volcanic Eruptions in the Squamish-Whistler-Pemberton Area". October 16, 1989.
- 1990/01 CBC radio, "The Afternoon Show with Patrick Munroe; The Eruption of Mount Redoubt, Volcanoes in British Columbia, and How They are Connected", January 4, 1990.
- 1990/01 Star FM (104.9) radio re: "The January 6th Eruption of Mount St. Helens and the January 8th Eruption of Mount Redoubt - Connections?", 5:40 PM, January 8th, 1990.
- 1990/01 CBC "The Early Edition", Paul Grant; reason for spectacular colour in sunrise - Redoubt eruption on Tuesday night with ash plume to 15 km, 8:18 AM, January 18, 1990.
- 1990/02 CBC radio, national science program, Quirks and Quarks with Jay Ingram (Penny Parks, Producer). Seven minute interview on the possibility of an eruption at a Canadian volcano. Aired Saturday, February 17, 1990.
- 1990/02 Rock 1040 AM radio re: "Possibility of Ash Fall on Parts of British Columbia from the February 21 Explosive Eruption of Mount Redoubt, Alaska", News broadcasts, Wednesday evening, February 21, 1990.
- 1990/05 CKNW 98.0 AM radio re: "Volcanoes of the Pacific Rim", 30-minute program aired 7:30 PM, May 18, 1990.
- 1990/05 CFUN 1410 AM radio re: "Reflections on the 10 Years Since the May 18, 1980 Eruption of Mount St. Helens", News interview aired throughout day on May 18th, 1990.
- 1990/05 CBC AM radio (local), "What Happened at Mount St. Helens 10 Years Ago and the Nature of the Activity Since That Time", News interview aired on local news, AM May 18th, 1990.
- 1990/05 CBC AM radio (national), "Adventures 10 Years Ago at Mount St. Helens and Reflections on the 10 Years Since", Aired nationally as 6-minute interview, AM May 18th, 1990.
- 1990/05 CBC AM radio (national-morning news broadcast), "Adventures 10 Years ago at Mount St. Helens", World Report, Karen Tankert reporting, May 18th, 1990.
- 1991/01 Co-op radio with Mary Ann Fuller re: "Women in Science", January 1991.
- 1991/07 CKLZ radio, Kelowna; "Field work in the Taseko Lakes area", July 1991.
- 1991/08 CBC radio, Saturday Edition with Neil Gillan, 8-part series on rocks of British Columbia, August-September 1991.
- 1991/10 CFML radio, Vancouver, with Jennifer Priest; "Volcanoes: What are They, What are the Environmental Implications of a Large Eruption", October 1991.
- 1992/09 CBC radio (national), "Summerside" with Ian Brown, September 10, 1992, 20 minutes.
- 1992/09 CBC radio (national), "The Vicki Gabareau Show" with Vicki Gabareau. September 17, 1992, 30 minutes.
- 1993/02 CBC radio ("CBO" Ottawa) Answering listener's questions on active volcanoes in Canada and activities at Mayon, Philippines, aired February 22, 1993.
- 1993/05 CKNW radio; Rafe Mair Open Line Show, handling listener's questions, 11:00- 12:00, May 31, 1993.

- 1994/04 CITR Volcanoes in Canada, University of British Columbia Radio Station, April 11, 1994.
- 1995/10 CBC Radio "The Afternoon Show" (Vancouver); "Implications of Increasing Activity at Mount St. Helens", Oct. 2, 1995.
- 1998/09 CBC Radio "The Morning Show" (Vancouver); Hazard maps published in Province and Sun Newspapers, Sept. 23, 1998.
- 2000/05 Mount St. Helens 20th anniversary event. Did media interviews for CBC TV, CTV, Global, CBC Radio (Vancouver) and CBC radio (Calgary).
- 2001/02 Mystery Rock: CBC the Afternoon show with Rick Cluff. Commented on how a rock that caused a fatal traffic accident might be traced.
- 2003/11 Victoria radio, interview on newspaper article on the possibility of an eruption in British Columbia, November 2003.
- 2004/03 Monitoring volcanoes in Canada, CBC French Radio, March 19, Emanuel Martinez.
- 2004/09 From Sept 29 to the middle of October, more than 100 media interviews were given regarding the resurgence of activity of Mt. St. Helens.
- During the month of May, numerous media interviews were given regarding the 25th anniversary of the May 18, 1980 eruption of Mt. St. Helens.
- During the month of May, numerous media interviews were given regarding the eruption of Mount Merapi, Indonesia (Global, CTV CBC, CNN).
- 2006/08 The Terrace Standard, "Study should reveal Tseax Cone's Secret", Sarah Artis, p. A12.
- 2006/10 PG/TV the local CBC affiliate in Prince George. Focus was on science and technology activities being supported by the Exploration Place including the school visits and a public lecture.
- 2006/10 CBC Radio BC Northern service. Morning show interview about volcanoes and the presentations being made for Science and Technology week being sponsored by the Exploration Place.
- 2006/10 Prince George Times, volcanism in northern BC and upcoming visit to Prince George for Science and Technology Week being sponsored by the Exploration Place and including school visits as well as a public lecture.
- 2006/10 CBC Radio BC Northern service. Morning show interview about volcanoes and the presentations being made for Science and Technology week being sponsored by the Exploration Place.
- 2007/02 SUN media; "Megathrust Earthquakes in the Lower Mainland", Matt Kieltyka (EPICC conference media scrum), February 20, 2007.
- 2007/02 LiDAR surveys in the lower mainland, Fairchild TV, Fiona Law, (EPICC conference media scrum), February 20, 2007.
- Numerous media (radio and television) interviews were given regarding the seismic swarm in the vicinity of Nazko Cone, central British Columbia. October-November 2007. There were interviews from all major television channels in Canada, as well as newspaper and radio coverage.
- On-going interviews on various volcanoes around the world when they erupt and impact people and property. Often contacted by CNN, CBC, CTV, and Global News. Since leaving the Geological Survey, these interviews have been referred to UBC, SFU or the GSC.
- 2013/08/23 CBC Radio Kelowna & Prince George (two interviews); "Volcanoes 101 Field Experience Wells Gray Provincial Park", August 23, 2013.
- 2013/11/18 CBC Radio Kelowna; "Eruption of Etna, Italy and Sinabung and Merapi in Indonesia, causes and impacts".
- 2014/02/14 Corus Radio Alberta; "The Eruption of Kelut Volcano, Indonesia", Dan Riendeau (Producer).
- 2018/06/05 CBC Radio Kelowna; "The Fuego Eruption in Guatemala", Dominika Lirette (Associate Producer)
- 2018/12/06 CHED radio, Edmonton, Cave discovery
- 2018/12 CBC various local broadcasters, also As-It-Happens National radio program.
- 2019/08 Various Edmonton based stations on the announcement of federal funding for Alberta No. 1
- 2020/04 Release of scientific paper on BC Cave Kamloops CBC; As-It-Happens CBC (National coverage)
- 2021/05 "How and Wow" APEGA radio series
- 2021/05 Canadian Energy Podcast Series: Geothermal Industry, Gowling WLG, https://gowlingwlg.com/en/insights-resources/podcasts/2021/canadian-energy-podcast-geothermal-industry/
- 2022/05/10 Alberta No. 1, CORE Knowledge podcast, https://podcasts.apple.com/us/podcast/alberta-no-1-catherine-hickson-on-core-knowledge-podcast/id1584915910?i=1000560422194

Print (This listing is incomplete.)

1989/07 Williams Lake Tribune (Ms. Marla Beats) re: "Chilcotin-Nechako Project - Who We Are and What We Are

- Doing. Rocks Reveal Area's History", July 24, 1989 (appeared August 10, 1989).
- 1989/08 Autograph session, "Nature Wells Gray" official release by Ministry of Lands, Parks and Housing and the Friends of Wells Gray, August 5, 1989.
- Canadian Press (national wire service), "Adventures 10 Years Ago at Mount St. Helens and Reflections on the 10 Years Since". Picked up by newspapers across Canada as copy for coverage on the eruption of Mount St. Helens, May 18, 1980, May 18, 1990.
- 1990/07 EMR Communications Branch (Rizwana Jiwa) re: "Life of a Field Geologist" for Entre Nous story, July 21-24, 1990.
- 1991/07 Prince George Citizen, Diane Bailey reporting, "Geologists Tackle an Ancient Puzzle", July 3, 1991.
- 1992/08 North Thompson News, "Vancouver Geologist Conducts Wells Gray Course", August 17, 1992.
- Ottawa Citizen series titled "The Other Public Service; Bracing for the Big One", by David Pugliese, August 31, 1992.
- 1992/09 Associated Press (national) Wire Service, David Pugliese reporting, "Subject Blows Scientist Away". Vancouver Sun, Calgary Herald, etc.
- 1992/10 Feature in book <u>Real Live Science</u> "Top Scientists Present Amazing Activities Any Kid Can Do" by Jay Ingram, Greey de Pencier Books, Toronto, Ontario, 48 p.
- 1993/01 Associated Press (national) Wire Service, Dave Patton and Tim Averi reporting, "Information and Background on Galeras Volcano Following the Eruption on January 14th Which Killed Six Volcanologists" January 14th and 15th.
- Times Colonist, Richard Watts reporting, "The Risky Business of Being a Volcanologist", follow up story to the Galeras tragedy, January 15th, Victoria, British Columbia.
- Featured in Canadian Geographic Story, "Waiting for Another Big Blast", by Daniel Wood, May/June issue, p. 22-34, 1993. (Winner of 1994 Canadian Science Writer's Association Award for Journalism).
- 1993/10 Featured in book <u>The Science Book for Girls and Other Intelligent Beings</u> by Valerie Wyatt, Kids Kan Press, Toronto, 1993.
- 1993/11 Invited contribution to All-Celebrity Cookbook, Burnaby Chamber of Commerce.
- 1993/11 Featured in book <u>Herstory 1995</u>, The Canadian Women's Calendar, Saskatoon Women's Calendar Collective.
- 1994/02 Burnaby Now Newspaper: Consequence of an Earthquake in the Lower Mainland.
- 1994 Featured in book Earth Dance by Cynthia Nicolson, Kids Kan Press, Toronto.
- 1994 Featured in Herstory. The Canadian Women's Calendar. Saskatoon Women's Calendar Collective.
- 1994/05 North Thompson The Times, "Volcanoes at our Front (and Back) Doors" by Helen Knight, May 31, Clearwater, British Columbia.
- 1994/07 North Thompson The Times, "Volcanoes of Wells Gray Park" by Ellen Hodgson and Judy Briggs, July 12, Clearwater. British Columbia.
- 1994/07 North Thompson The Times, "Renowned Volcanologist to Talk July 17", July 11, Clearwater, British Columbia.
- 1994/12 The Toronto Star, Walter Stefaniuk reporting, "You Asked Us" [about volcanoes in Canada].
- 1997 Featured scientist in text book <u>Science Probe 7</u>, p. 382. ITP Nelson Publishing Co., Toronto, 1997, 432 p.
- 1997/08 National Geographic, special millennium article on volcanism in North America. "Cascadia Living on Fire", May 1998 vol. 193, no. 5. p. 6-37. Rick Gore, writer, August 15-17, 1997.
- 1997/10 Featured in book <u>Western Journey: Discovering the Secrets of the Land</u> by Daniel Wood and Beverly Sinclair.
- 1998/04 Georgia Straight, featured in newspaper article "Glimpses into Nature's Meaning" Daniel Wood, April 23, 1998, p. 17-18.
- 1998/09 Province Newspaper. Series of hazards maps published from GeoMap poster. Ran in newspaper Sept. 21-24, 1998.
- 1998/09 Feature article on career, Marie Claire Fashion Magazine. "Nata per Domare I Vulcani" Italian edition. September 1998, four full colour pages.
- 1998/09 Yes Magazine: Canada's Science Magazine for Kids. Feature highlight "Tracking Volcanoes" by Kathianne Kowalski, Autumn 1998, p. 18.
- 1999/10 Featured in book <u>Kidscience: Real Science Your Child Can Do</u> published by the Association for the Promotion and Advancement of Science Education (APACE), 175 p., 1999.
- North Thompson *The Times*, "Wells Gray is a volcanic hotspot, says Cathy Hickson", March 19, 2001, p. 15.
- 2002/04 Feature article on career in Innovation, Journal of the Association of Professional Engineers and

	Geoscientists of BC. "Taming the Volcano: Dr. Catherine Hickson P.Geo." (p. 10-14), Vol. 6, no. 3, April 2002.
2002/11	Feature article on career in, "Super Women in Science" Chapter 9, p. 73 - 80, Kelly Di Domenico, Second Story Press, Ontario, 2002.
2004/04	Rupert Times, Roberta Bentz reporting, "An eruption in Prince Rupert?".
2004/05	Yes Magazine: Canada's Science Magazine for Kids. Feature highlight "The Worst Natural Disasters of the 20th Century", May/June 2004, issue 40, p. 11-21.
2004/10	Ottawa Citizen, Margaret Brady reporting, "The Quest for Inner Space", October 3, 2004, p. C3-C5.
2004/09	From Sept 29 to the middle of October, more than 100 media interviews were given regarding the resurgence of activity of Mt. St. Helens.
2005/05	During the month of May, numerous media interviews were given regarding the 25 th anniversary of the May, 18, 1980 eruption of Mt. St. Helens.
2005/12 2006/08	Georgia Straight, Ben Parfitt reporting, "Fire and Ice: The Story of British Columbia's Volcanoes", p. 51-52. Terrace Times, Field work in the Tseax area.
2006/10	Prince George Times, volcanism in northern BC and upcoming visit to Prince George for Science and Technology Week being sponsored by the Exploration Place and including school visits as well as a public lecture.
2007/04	Kamloops Daily News, "Buck Hill – To Mine or Not to Mine, the Growing Controversy Over the Extraction of Lava Rock".
2007/10	Numerous media (radio and television) interviews were given regarding the seismic swarm in the vicinity of Nazko Cone, central British Columbia, October-November 2007. There were interviews from all major television channels in Canada, as well as newspaper and radio coverage.
2007/12	Interview with The Fragile World Foundation, to discuss the 1980 Mount St. Helens eruption, for a book and television series, December 3.
2008	On-going interviews on various volcanoes around the world when they erupt and impact people and
2010/04	property. Maclean's, "The Volcano That Choked a Continent", April 26, 2010 (online) http://www2.macleans.ca/2010/04/26/the-volcano-that-choked-a-continent/
2014	Several articles and contributions to the Clearwater Times on Wells Gray Park as a geopark, logging in the three gorges area, Wells Gray Treasure Hunt and summer activities.
2014/08	Yahoo internet news update (French), "Pending Eruption of Bárðarbunga Volcano, Iceland", Quebec, August 22, 2014.
2018/12	Canadian Press. The Globe and Mail. "Newly Discovered Cave in B.C. Park Might be the Largest in Canada" https://www.theglobeandmail.com/canada/article-newly-discovered-cave-in-bc-park-might-be-the-the-the-the-the-the-the-the-the-th
2018/12	largest-in-canada-2/, December 3, 2018. Canadian Press. HuffPost. Cave Discovered in Wells Gray Provincial Park Might Be the Biggest in Canada. December 3, 2018. https://www.huffingtonpost.ca/2018/12/03/wells-gray-provincial-park-cave-
2018/12	discovery a 23607016/?utm_hp_ref=ca-homepage Black Press. Rossland News. "Newly Discovered Cave in B.C. Park Might be the Largest in Canada". December 3, 2018. https://www.rosslandnews.com/news/newly-discovered-cave-in-b-c-park-might-be-the-
	Investigation and del

largest-in-canada/

New York Times, A "Honking Big Cave in Canada" https://www.nytimes.com/2018/12/08/science/canada-2018/12 cave-british-columbia.html

2018/12 Numerous blogs and other web coverage that took the printed material and promulgated it throughout the internet.

Why researchers believe one of Canada's largest cave went undetected for so long (Rhianna Schmunk). 2020/04/20 https://www.cbc.ca/news/canada/british-columbia/bc-cave-discovery-wells-gray-provincial-park-why-it-wentundetected-1.5536359

2022/04 Jackson, L., Edwards, B., Hickson, C., Tuyas; Landforms of fire and ice, Natural History Magazine, 103(4)

j) research awards:

National Science and Engineering Research Council of Canada 3-year grant (2000 - 2003) \$15,000/year. Subglacial Volcanism in the Canadian Cordillera.

National Science and Engineering Research Council of Canada 3-year grant (2003 – 2006)

Gas Monitoring of Volcanoes (Principal Investigator: Dr. John Stix, McGill University)

National Science and Engineering Research Council of Canada Industry Fellowship,

Dr. Nathalie Vigouroux, Post-Doctoral Fellow

Alterra Corporate support: National Science Foundation RAPID grant (\$65,000USD)

Accelerating Unrest Within a Large Rhyolitic Magma System: Laguna del Maule, Chile (Principal Investigator: Dr. Glvn Williams-Jones. Simon Fraser University)

Alterra Corporate support: National Science Foundation FESD grant submitted (Principal Investigator: Dr. Brad Singer, University of Wisconsin-Madison) (\$4,235,970 USD)

Dynamic Processes Driving Super-eruptions

Alterra Corporate support: National Science and Engineering Research Council of Canada. (Principal Investigator: Dr. Kelly Russell, The University of British Columbia) (\$25,000)

Rock Mechanic Experiments at Geological Conditions: An Aid to Evaluation of Geothermal Reservoir Rocks Dajin Resources Corp. National Science and Engineering Research Council of Canada (Principal Investigator: Dr. Pierre Kennepohl, The University of British Columbia) (\$25,000)

Characterization and Speciation of Lithium in Heterogeneous Brines: A Step Towards More Efficient and Environmentally Sustainable Lithium Extraction

k) professional personnel who are or have worked with you:

i. graduate students (thesis committees):

Ms. Julie Hunt, The University of British Columbia, M.Sc. 1990-1992, (Co-supervisor with M. Bustin)

Thesis: Stratigraphy, Maturation and Source Rock Potential of Cretaceous Strata in the Chilcotin-Nechako Region of British Columbia

Mr. David Huntley, University of New Brunswick, Ph.D., 1991-1996. (Co-supervisor with B. Broster)

Thesis: The Late Wisconsinian Glaciation of East-Central Taseko Lakes, British Columbia

Mr. Brian Mahoney, The University of British Columbia, Ph.D., 1991-1994. (Co-supervisor with M. Bustin and J. Armstrong)

Thesis: Nd Isotopic Signatures and Stratigraphic Correlations: Examples from Western Pacific Marginal Basins and Middle Jurassic Rocks of the Southern Canadian Cordillera

Ms. Kyla Arden, The University of British Columbia, Ph.D. 1996-1997 (withdrew before completion)

Ms. Melanie Kelman, The University of British Columbia, Ph.D. Sept. 1999- 2005. Defended July 5, 2005 (Co-supervisor with J.K. Russell)

Thesis: Subglacial Volcanism in the Mount Cayley Area, British Columbia

Mr. Martin Stewart, The University of British Columbia, M.Sc., 1999 – 2002. (Co-supervisor with J.K. Russell)

Thesis: Dacite black and ash avalanche hazards in mountainous terrain: 2360 Yr.B.P. eruption of Mount Meager, British Columbia

Mr. Jimmy Powell, University of Alabama M.Sc. (external supervisor, N. Green, Department of Geological Sciences, University of Alabama) 2001 – 2005, defended December 12, 2005

Thesis: Quaternary magmas of the Raffuse Creek-Mamquam River area, Southwest British Columbia

Mr. Samual Bruno, Western Washington University, (co-supervisor with P. Stelling). (September 2007-2009)

Thesis: The Ring Creek Lava Flow: A Case Study in Examining Prehistoric Lavas

Ms. Yuliana Proenza, The University of British Columbia, Department of Engineering

Thesis: GIS and 3D Visualization of Mount Meager Historical Geothermal Data (Sept 2012)

Mr. Andres Ruzo, Southern Methodist University, Texas PhD (changed topic) (September 2012 – 2013) (external committee member; supervisor Dr. David Blackwell)

Thesis: Geothermal Potential of Peru

Mr. Guðni Karl Rosenkjær, The University of British Columbia (external committee member; supervisor Dr. Doug Oldenburg)

Thesis: Enhanced 3D EM Inversion for Geothermal Exploration (September 2013-2016)

Mr. Conner Morison, University of St. Andrews (external adviser; supervisor Dr Richard Streeter)

Thesis: The Vulnerability of the Sea-to-Sky Corridor to Volcanic Hazards (2019)

Ms. Ashley Van Acken, Vancouver Island University (committee member; supervisor Tom Gleeson)

Thesis: Conceptualizing the hydro-geothermal system at Sloquet Hot Springs on unceded St'at'imc territory in Southwestern British Columbia

ii. postdoctoral fellows:

Dr. Peter van der Heyden: 1989-1991

Dr. Paul Metcalfe: 1993-1995 Dr. Nathalie Vigouroux: 2011-2013

iii. research colleagues:

- Dr. J.G. Moore, United States Geological Survey, Menlo Park, California (Volcanology/retired)
- Dr. J.K. Russell, The University of British Columbia, Vancouver, BC (Volcanology)
- Dr. J. Stix, McGill University, Montreal, Quebec (Volcanology)
- Dr. B. Mahoney, University of Wisconsin Eau Claire, Wisconsin (Regional tectonics)
- Dr. R.I. Tilling, United States Geological Survey, Menlo Park, California (Volcanology/retired)
- Dr. Glyn Williams-Jones, Simon Fraser University, Burnaby, BC (Volcanology; Geophysics)
- Dr. B. Singer, University of Wisconsin Madison, Wisconsin (Neotectonics; Laguna del Maule, Chile)
- Dr. D. Blackwell, Southern Methodist University, Texas (Geothermal systems and heat flow/retired)
- Dr. Pierre Kennepohl, University of British Columbia, Vancouver, BC (Lithium brine chemistry)
- Dr. Will Gosnold, University of North Dakota, Grand Rapids, ND (Heat flow in the Western Canada Sedimentary basin)

iv. sabbatical visitors:

- Dr. J.K. Russell, University of British Columbia, Sabbatical leave Sept-Dec. 1992.
- Dr. J.K. Russell, University of British Columbia, Sabbatical leave June-Oct. 1999 and Dec-Jan 2000.
- Dr. D. Rubiolo, SEGEMAR, Argentina, CONICET visiting scientist, January 2002-November 2005.

v. NRCan/GSC research assistants and associates:

Ms. Janet Freeth, 1991-1992

Ms. Alice Wong, 1992-1993

Ms. Shelley Higman, 1993-1994

Ms. Rocio Lopez, 1994-1995

Dr. Ben Edwards, 1997-1998

Dr. Jennifer Getsinger, September 2000-June 2001, 2006

Ms. Brenda-Marie Brannstrom, 2001-2004

Dr. Mark Stasiuk, 2000-2005

Dr. Kristie Simpson, 2001-2004

Ms. Malaika Ulmi, 2004-2008

Dr. Melanie Kelman, August 2007-August 2008

1) professional directorships, memberships and/or participation on boards for research centres:

Center for Geohazard Studies, Dr. Michael Sheridan, The State University of New York, 2004-2008

Vanguard Emergency Preparedness Foundation, Sri Lanka, Vanguard Foundation, Mr. Lakshaman Bandaranayke, President. February 2005-2008

Center for Hazard Research, Dr. J.J. Claque, Simon Fraser University, Burnaby British Columbia, November 2005-2008.

6. SERVICE

a) departmental service [left the Public Service October 2008]:

i. divisional committees:

Chairperson, Library Committee (September 1991-March 1993)

ii. departmental committees (national or external):

Chairperson, Volcanic Eruption/Ash Hazard Communications Working Group (1991-2008)

Member, Regional Federal Crisis Management Committee (February 1992-2002)

Member, Federal Support Team, Earthquake response and support to the Provincial Government (February 1992-2002)

iii. search committees:

Internal committees to fill regular positions within the subdivision, including Research Scientist positions. Staffing for Multinational Andean Project: Geoscience for Sustainable Development and Geoscience for Andean Communities. Multiple positions, including research scientists and management positions.

Staffing of global exploration team for Alterra Power Corp. and global subsidiaries in Chile, Italy, Peru, and USA offices.

iv. division service:

Subdivision head (library services) RC117, (September 1991-November 1993)

Acting/Director, Cordilleran Division, as required (1991-November 1993)

Acting Subdivision Head (Scientific) RC116, as required (1991-November 1993)

Coordinator, COSEP Summer employment program (1989, 1991, 1993)

Coordinator, GSC Volunteer Program (December 1992-1995)

Emergency Coordination and Planning (1992-1996)

A/Subdivision Head, GSC Vancouver Subdivision, GSC Pacific Division (April 1, 1995-October 14, 1997)

Subdivision Head, GSC Vancouver Subdivision, Pacific Division (October 15, 1997-September 2002)

Acting/Director Pacific Division, as required (April 1, 1995-September 2002)

Multinational Andean Project: Geoscience for Sustainable Development, Project Manager (1996-2002)

Multinational Andean Project: Geoscience for Andean Communities, Project Manager (2003-2005)

Interim Program Manager "Reducing Risk from Natural Hazards" (September 2005 - May 9, 2006)

Project Leader "Risk Assessment Methodologies" (April 2005-May 2008)

GAC/MAC Annual General Meeting, Edmonton '93, May 14-16.

b)

leader or co leader for field trips and field courses:	
Field Trip Leader, Mount St. Helens, Dawson Club, Department of Geology, UBC.	
Accompanying Specialist, Mount St. Helens, Field Studies Program, Department of C	ontinuing Education, UBC,
3-day field trip.	
1985/08 Accompanying Specialist, Wells Gray Field Trip, Field Studies Program, Department UBC, August 2-5.	of Continuing Education,
1985 Field Trip Leader, Mount St. Helens, Dawson Club, Department of Geology, UBC.	
1986/09 Accompanying Specialist, Garibaldi Volcanic Area Field Trip, Field Studies Program,	Department of Continuing
Education, UBC, September 28.	
1987/07 Accompanying Specialist, Graham Island (Queen Charlotte Islands), Field Studies Pr	ogram, Department of
Continuing Education, UBC, July 10.	
1987/08 Field Trip Co-Leader (with W.H. Mathews), Garibaldi Volcanic Belt, IUGG conference	, Vancouver, B.C., August
15-16.	
1987/08 Field Trip Co-Leader (with D. Swanson), Mount St. Helens, IUGG conference, Vanco	uver, B.C., August 23-25.
1988/09 Field Trip Leader, Mount St. Helens, Slope Hazards Investigation Field Trip, Septemb	per 16-18.
1991/10 Field Trip Co-Leader (with B. Mahoney), Mount St. Helens, UBC Department of Geolo participants).	ogy, October 11-13 (46
1992/05 Field Trip Co-Leader (with J. Nagel), Mount St. Helens, Science World Charity Auctio	n, May 15-16-17
(6 participants).	
1992/07 Field Trip Co-Leader (with J. Roddick), Vancouver/Howe Sound, Special geological to	our for Dallas Peck
(Director, United States Geological Survey), Ken Babcock (Assistant Deputy Minister	, GSC) and others, July 10
(9 participants).	,
1992/08 Course Instructor, Volcanoes! Field Study Course, Friends of Wells Gray, August 8-9	(14 participants).
1993/05 Field Trip Co-Leader (with P. Metcalfe), Volcanoes of the Wells Gray - Clearwater Are	` ' '

Course Instructor, Volcanoes! Field Study Course, Friends of Wells Gray, August 7-8 (12 participants). Field Trip Co-Leader (with J.K. Russell), Mount Meager, field trip for Dean of Science, UBC, August 28-29

Science and Technology, Province of British Columbia, June 7, 1994 (28 students).

How the Chasm Formed, A Visit to Chasm Provincial Park, Ashcroft Elementary School, Grade 3, 'Scientists and Innovators in the School Program', Ministry of Advanced Education and Job Training and Ministry of

(6 participants).

1993/08

1993/08

1994/06

1994/06 Field Trip Co-leader (with Larry Diakow, Paul Metcalfe), Geological Studies and Mineral Exploration in the Southern Nechako Plateau, July 10-12 (40 participants). 1994/07 Course Instructor, Volcanoes! Field Study Course, Friends of Wells Gray, July 15-17, 1994. (14 participants) 1995/05 Field Trip Co-Leader (with Paul Metcalfe) GAC Victoria '95, South-Central Neogene to Holocene Volcanism in the Canadian Cordillera, May 12-16 (trip ran with P. Metcalfe as sole leader due to illness). 1995/05 Field Trip Leader, GAC Victoria '95. Mt. St. Helens - A 15 Year Retro Trip for K-12 Educators, April 20. 1996/07 Field Trip Leader, Volcano Flyby! Pan Pacific Hazards '96 mid-conference field trip. July 30 (20 participants). 1996/08 Field Trip Leader, Volcanoes of SW British Columbia, Pan Pacific Hazards '96 post conference field trip. August 3-5 (12 participants). 1998/08 Field Course Instructor, Volcanoes! Field Study Course, Friends of Wells Gray, August 14-16 (9 participants). 1998/08 Field Course Instructor, Volcano field course, Multinational Andean Project, Mount St. Helens to Wells Gray, August 10-21 (5 participants). 1998/09 Field Trip Leader, Cascade Volcanoes and Hazards. International Association of Engineering Geologists and Environmentalists, with Pat Pringle, Washington State Geological Survey, September 25-30 (21 participants). 2000/04 Field Course Instructor, Mapping Volcanic Terrain: Products and Processes. Six-day field course in southern Peru for INGEMMET, Lima, Peru, April 16-22 (22 participants). 2003/09 Field Trip Leader, Southern Coast Mountains - Vancouver to Squamish, Len Berry Summer School, Silicate Melts, Glasses and Magmas Workshop, University of British Columbia, September 3. 2005/08 Field Trip Co-Leader (with Ahren Bichler), Cascade Volcanism and the Olympic Mountains, 3 days, Friedrich-Alexander-Universitat, Erlanger-Numberg, Germany August 13-16 (21 participants). 2007/06 Field Trip Co-Leader (with J.K. Russell and G. Andrews), Subglacial Volcanism Along the Sea to Sky Corridor, 2nd Volcano-Ice interaction of Earth and Mars Conference, Vancouver, BC, June 21. 2012/08 Field Trip Leader, Volcanoes of Wells Gray Park, Thompson Rivers University, August 31 (45 participants). 2013/08 Field Trip Leader, Volcanoes 101 Thompson Rivers University Research Centre/Wells Gray World Heritage. August 23-24-25 (30 participants). 2014/05 Field Trip Leader, Tseax Volcano; British Columbia University and College articulation meeting, Northwest Community College, Terrace, BC, May 6-9 (approx. 35 participants). Field Trip Leader, Volcanoes of Wells Gray Park and Clearwater River, Thompson Rivers University, July 25-26-2014/07 27 (14 participants). 2014/09 Out of the NW Passage – Geology of the Frigid North – Glaciers, Gravel and Gneiss, September 7-23. 2014/10 Field Trip Leader, Volcanism and Interglacial Interaction in the Wells Gray – Clearwater Volcanic Field, East Central British Columbia, Geological Society of America, October 23-25. 2014/12 Antarctica Peninsula – Geological Influences on the Evolution of Antarctica, November 26, 2014-January 15, 2015. Seabourn Cruise Line. 2015/07 Heart of the Arctic – Ungava Peninsula and Baffin Island, July 17-29, Adventure Canada. 2015/09 Black Sea and the Greek Isles - Geological Influences on Civilization through UNESCO World Heritage Sites, September 12-25, Seabourn Cruise Line. 2015/12 Antarctica Peninsula – Geological Influences on the Evolution of Antarctica, November 28-December 22. Seabourn Cruise Line. 2016/02 Antarctica Peninsula – Geological Influences on the Evolution of Antarctica, February 2-24, Seabourn Cruise Line. 2016/05 The Aegean – Geological Influences on Civilization Through UNESCO World Heritage Sites, May 28-June 11, Seabourn Cruise Line. 2016/09 Into the NW Passage – Kangerlusuag to Kulgluktuk, August 27-September 11, Adventure Canada. 2017/01 The South China Sea (Singapore to Hong Kong), Geological Influences on Civilization Through UNESCO World Heritage Sites, January 4-21. 2017/07 Sable Island, July 4-13, Adventure Canada.

c) other professional services:

Deer Trails. Wells Grav Provincial Park

Yukon Government Field trip to Chena Hotsprings, Alaska (September

This listing is incomplete.

2019/0XX

2019/09

Scientist and Innovators in the School Program, British Columbia Ministry of Advanced Education (since 1989) IAVCEI, Task Force, International Commission for the Mitigation of Volcanic Disasters (June 1989-2000: Canadian member) Critical Reviewer, Canadian Journal of Earth Sciences (November 1990)

Association for Promotion and Advancement of Science Education (since 1990)

Specialist/Critical Reviewer, A Threat Erupts, by Janice Snyder, Emergency Preparedness Digest, January/March 1992, p. 20-21.

Canadian National Committee/International Union of Geodesy and Geophysics; Representative for IAVCEI (1992-1996)

Critical Reviewer, Canadian Journal of Earth Sciences (May 1992)

Critical Reviewer, Geological Society of America Bulletin (October 1992)

Facilitation of requests for COSPEC from Guatemala and Philippines to CIDA (summer and fall 1992)

Working Group Member, Communication of Volcanic Eruption Information for Aviation Safety (September 1992, ongoing)

Scientific Reviewer, Waiting for Another Big Blast, Canadian Geographic Magazine, Daniel Wood, May/June 1993, p. 22-34.

Scientific Reviewer, Paddling the Wild Stikine, Canadian Geographic Magazine, Ken Madsen, May/June 1994, p. 24-37.

Critical Reviewer, Earth Dance by Cynthia Nicolson, Kids Kan Press, Toronto (Completed May 1994)

Updating Quaternary volcano listing for the Global Volcanism Project, Smithsonian Institute, Washington, DC. (completed June 1994)

Assisting in collecting and supplying slides for Mining Association of British Columbia educational initiative to supply resource material for public school teachers (June-July 1994)

Discussions with visiting delegation from Mexico on the role of the Geological Survey of Canada and application to restructuring of earth science research in Mexico (July 7, 1994)

Critical Reviewer, National Research Council of Canada, Grant proposal (July 1994)

Visiting researcher, Icelandic Museum of Natural History (Dr. Sveinn Hakobsonn) and Dr. J.G. Moore (USGS), Surtsey, Iceland (August 7-21, 1994)

Assistance to CIDA to help facilitate request for COSPEC from Papua New Guinea (September 1994)

National Research Council of Canada, Women's Faculty Award review (October 1994)

Critical Reviewer, Canadian Journal of Earth Sciences (December 1995)

Critical Reviewer, Arctic, The Arctic Institute of North America (March 1995)

Lithoprobe, National Research Council of Canada, Grant proposal (April 1995)

NSERC, Shared equipment and facilities proposal review (September 1995)

Assistance to CIDA to help facilitate request for COSPEC from Montserrat (September 1995/96)

Ash and aviation hazards meeting convened by Dr. E. Wolfe, USGS, Cascade Volcano Observatory, Vancouver, Washington. (November 17, 1997)

Technical input. Canadian Geographic "Natural Hazards Poster"

Technical input, National Geographic Natural Hazards of North America map.

Critical Reviewer, Canadian Journal of Earth Sciences (geochronology of young volcanic rocks) (November 1998)

Critical Reviewer: National Science Foundation Project Proposal, the AD 260 Eruption at Lake Liopango, El Salvador: A Complex Explosive Eruption Through a Caldera Lake, Vallance/Houghton (January 1999)

Critical Reviewer, Academic Press, Encyclopedia of Volcanoes (Ice contact volcanism/Smellie) (February 1999)

Critical Reviewer, Journal of Geophysical Research, Tectonic Setting of the Wudalianchi Dormant Volcano in North-eastern China (October-November 1999)

Critical Reviewer, Journal of Volcanology and Geothermal Research, Buck Creek Basin (June 2000)

Ms. Michelle Haskin, Simon Fraser University, Earth Sciences. M.Sc. Thesis External Examiner. (November 27, 2000)

Canadian National Committee Leader, International Geological Correlation Program (IGCP), UNESCO, Project 455, Effects of Basement, Structural and Stratigraphic Heritage on Volcano Behaviour and Implications for Human Activities (2001- 2005)

Critical Reviewer, Canadian Journal of Earth Sciences, Large Scale Landslides from Volcanic Edifice in Alaska (November 2001)

Critical Reviewer, Natural Hazard Journal, The Value of Public Participation During a Hazard, Impact and Risk and Vulnerability Assessment (September 2003)

Critical Reviewer, Natural Hazard Journal, Effects of Volcanic Ash on Computers and Electronics (February 2004)

Critical Reviewer, Natural Hazard Journal, Multi-parameter Monitoring of Volcanoes (March 2004)

Mt. Baker Glacier Peak Volcano Emergency plan working group meeting (June 11, 2004)

2nd international Conference on Volcanic Ash and Aviation Safety, subject matter expert and international liaison, Washington, D.C. (June 21-24, 2004)

Critical Reviewer, Bulletin of Volcanology, Subglacial Volcanism at Vatnafjall, Oraefajokull, Iceland (September 2004)

Living Landscapes and Access initiatives, Royal BC Museum, Northwestern region, Terrace, BC, invited subject matter expert, (March 11, 2005)

Critical Reviewer, Canadian Journal of Earth Sciences (2005)

European Commission, Research Directorate Review Panel Area 6.1.3.2 "Vulnerability assessment and societal impacts" (2007)

Critical Reviewer, Natural Hazards (2 papers), Bulletin of Volcanology (1 paper), Geomorphology (1 paper) (2007)

Critical Reviewer, Natural Hazards (1 paper) (2008)

Portuguese Foundation for Science and Technology, review of grant proposals (2012)

Critical Reviewer, Bulletin of Volcanology (1 paper), Geostandards and Geoanalytical Research (1 paper); Geothermal Journal (1 paper) (2013)

Critical Reviewer, Geothermal Resources Council Papers (2014)

Technical Advisory Committee, Geoscience British Columbia Geothermal initiatives (2013-2014)

Critical Reviewer, Bulletin of Volcanology (1 paper), Geostandards and Geoanalytical Research (1 paper) (2014)

Professional Engineers and Geoscientists of BC Nominating Committee for Candidates for 2014/2015 Council Election (2014)

Professional Engineers and Geoscientists of BC video for encouragement of entry of undergraduate students into geoscience and engineering (2014)

Professional Engineers and Geoscientists of BC Nominating Committee for Candidates for 2015/2016 Council Election (2015)

Critical Reviewer, Chapter 4: Volcanism, Physical geography textbook for Canadian Universities, Steven Earle (2015)

UNESCO World Heritage application for Wells Gray Provincial Park (co-author with Trevor Goward) 2017/2018

Engineers and Geoscientist British Columbia AGM, Sept 13 -14, 2018

Engineers and Geoscientist British Columbia geoscience career panel, Vancouver, October 22, 2018

Public Geoscience Consultation on behalf of the Government of British Columbia (Geoscience BC), January 1, 2019, Vancouver, BC.

Clean Energy Future Forum (Pembina Institute), February 28, 2019, Vancouver, B.C.

Geothermal Conference, Latin America, July 15 – 17, 2019, Santiago, Chile

Clean Energy Ministerial along with Clear Path and the Department of Energy, Monday, May 27th, 2019 on behalf of Geothermal Canada, Vancouver, BC

European Geothermal Congress, on behalf of Geothermal Canada and Terrapin Geothermics, The Hauge, June 9 – 12, 2019 Deep EGS Workshop and field trip, Orleans, France, November, 5-8, 2019

International Renewable Energy Agency, Country Representative on behalf of Geothermal Canada, Abu Dhabi Assembly, January, 2020

Critical Reviewer, Natural Environment Research Council (2021)

Scientific Authority - C.J. Hickson.

7. RESEARCH GROUPS

a) NRCan/GSC contracts:

)	NRCan/GSC contracts:	
	1988/89	Compilation of Mineralization Showings for Chilcotin-Nechako Region. Equity Preservation Corporation (Dr. G. Carlson and Mr. Fields), \$10,000.00. Scientific Authority - C.J. Hickson.
	1989/90	Study of Stratigraphy, Palynology and Geochronology of Tertiary Rocks in the Chilcotin-Nechako Basin. PCI Palynorox Consulting Ltd. (Dr. G. Rouse and Dr. W.H. Mathews). \$25,000.00. Scientific authority - C.J. Hickson.
	1989/90	Study of Organic Maturation and Source Rock Potential of the Chilcotin-Nechako Basin, British Columbia. University of British Columbia (Dr. M. Bustin). \$28,000.00. Scientific Authority - C.J. Hickson.
	1989/90	Study of Organic Maturation and Source Rock Potential of the Nechako Basin, central British Columbia. University of British Columbia (Dr. M. Bustin and Ms. J. Hunt). \$24,000.00. Scientific Authority - C.J. Hickson.
	1990/91	Stratigraphy and Palynology of Tertiary Rocks in the Chilcotin-Nechako Basin. PCI Palynorox Consulting Ltd. (Dr. G. Rouse). \$12,000.00. Scientific Authority - C.J. Hickson.
	1990/91	Production of Geological Maps for the Fraser and Chilcotin Faults and Vicinity. Geotex Consultants (Dr. P. Read). \$20,106.00. Scientific Authority - C.J. Hickson.
	1990/91	Basin Analysis and Sedimentology of the Skeena Group, Nechako and Southwestern Bowser Basins. University of Minnesota (Dr. K. Kleinsphen). \$4,000.00. Scientific Authority - C.J. Hickson.
	1990/91	Cretaceous and Paleogene Stratigraphy of the Churn Creek Area, central British Columbia. University of British Columbia (Dr. W.H. Mathews). \$5,916.00. Scientific Authority - C.J. Hickson.
	1991/92	Determination of the Stratigraphy and Structure Between the Fraser and McEwen Faults in B.C. Geotex Consultants (Dr. P. Read). \$25,339.80. Scientific Authority - C.J. Hickson.
	1991/92	Glaciogenic Dispersion and Glacial Sedimentation in the Quaternary Sequences of Taseko Lakes, British Columbia. University of New Brunswick (Dr. B. Broster). \$3,069.30. Scientific Authority - C.J. Hickson.
	1991/92	Geothermal Resources Map of British Columbia. Fairbanks Engineering (Mr. Brian Fairbanks). \$10,700.00.

1992/93 Determination of the Stratigraphy and Structure Between the Fraser and McEwen Faults in B.C. Geotex Consultants (Dr. P. Read). \$32,006.90. Scientific Authority - C.J. Hickson. 1992/93 Glaciogenic Dispersion and Glacial Sedimentation in the Quaternary Sequences of Taseko Lakes, British Columbia. University of New Brunswick (Dr. B. Broster). \$3,000.00. Scientific Authority - C.J. Hickson. 1993/94 Determination of the Stratigraphy and Structure Between the Fraser and McEwen Faults in B.C. Geotex Consultants (Dr. P. Read). \$41,000.00. Scientific Authority - C.J. Hickson. 1993/94 Eruption Control and Physical Processes Associated with the 2340a eruption of Mount Meager. Dr. M. Stasiuk. \$2,000.00. Scientific Authority - C.J. Hickson. 1993/94 Integrated Relational Database. Kustos (Mr. J.J. Nagel) \$5,500.00. Scientific Authority C.J. Hickson. 1994/95 Agra Earth and Environmental (Scott Dunbar) \$25,000.00. Scientific Authority - C.J. Hickson. 1994/95 InterAmerican Development Bank, Borders Project (\$150,000US). Team leader, C.J. Hickson (October, November 1994, January 1995). 1996/02 Canadian International Development Agency, Multinational Andean Program: Geoscience for Sustainable Development (MAP:GSD) (\$4.9 million over 5 years). Project Manager, C.J. Hickson (August 1996 - March 2002). Joint international cooperative program between Argentina, Bolivia, Canada, Chile and Peru. Total funding from all countries was \$12 million. 1997/98 Puna Austral Airborne Geophysical Survey, MAP:GSD (\$800,000). Scientific Authority - C.J. Hickson. 2000/01 Argentina-Chile Airborne Geophysical Survey, MAP:GSD (\$500,000). Scientific Authority - C.J. Hickson. 2000/01 Bolivia-Chile-Peru Airborne Geophysical Survey, MAP:GSD (\$1,200,000). Scientific Authority - C.J. Hickson. 2002/08 Canadian International Development Agency, Multinational Andean Project: Geoscience for Andean Communities (\$12 million over 6 years), Project Manager, C.J. Hickson (May 2002 - March 2008), Joint international cooperative program between Argentina, Bolivia, Canada, Chile Colombia, Ecuador, Peru and Venezuela. Total funding from all countries was \$34 million.

b) collaborative research and grants:

Dr. Hickson has strong collaborative ties with researchers in institutes around the world. After retiring from the GSC, she maintained her academic ties, as well as promoting new ones in geothermal energy. She has continued to do the same in Lithium exploration and has been able to take her background in volcanology and geothermal energy as a segue into the field of Lithium. Strongly collaborative, she has gone against the trend many companies have taken by keeping data secret. Rather, her philosophy is that once land tenure is secure, valuable information can be gained through industry-academic collaboration to support problem solving of issues outside the realm of for-profit companies. Thus, she has made links to academic researchers and supported several research projects, including thesis studies. University ties through thesis support by Terrapin, Alterra and Dajin have been maintained with University of Nevada, Reno (2 theses), Southern Methodist University Texas (2 theses), University of North Dakota (1 thesis), University of St. Andrews (1 thesis) and University of Concepcion, Chile (1 thesis). In addition to thesis support, two NSF project proposals have been supported with the exchange of data and corporate support (NSF RAPID grant "Accelerating Unrest Within a Large Rhyolitic Magma System" (granted); NSF FESD grant "Dynamic Processes Driving Super-Eruptions Laguna del Maule, Chile" (awarded)). Two NSERC Engage grants have been funded - Dr. Kelly Russell, UBC Principal Investigator and Dr. Glyn Williams-Jones, SFU Principal Investigator. In 2015 Dr. Pierre Kennepohl received an Engage grant funding his work in Lithium speciation in brines.

c) industrial development grants:

Natural Resources Canada, Emerging Renewable Power Program; August 23, 2019, \$25,400,000 for development and execution of Alberta No. 1 project. No. 1 Geothermal Limited Partnership, Terrapin Geothermics majority owners, Edmonton, Alberta.

d) grant requests:

Denied – Natural Resources Canada, Smart Renewables and Electrification Pathways Program (SREPs) - Capacity Building, November 5, 2021, \$2,600,000 for Transitioning Alberta Wells to Renewable Energy (TAWRE), Terrapin Geothermics, Edmonton AB.

In Review - Department of Energy, United States of America, Partnerships for International Research and Education (PIRE);

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