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THE UNIVERSITY OF BRITISH COLUMBIA

**Earth & Environmental Sciences and Physical Geography**

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**FINAL REPORT**

**DVC INVITED INTERNATIONAL DISTINGUISHED VISITOR AWARD – 2015**

**PROFESSOR JAMES SHULMEISTER**

Dr. Shulmeister is a Full Professor in the School of Geography, Planning, and Environmental Management at the University of Queensland (Brisbane, Australia). He was Head of School between 2009 and 2014, and prior to that he has held faculty positions at various universities in New Zealand and the United States. His research on glacial geomorphology and sedimentology is directed at interpreting paleo-environmental conditions with a view to understanding future climate change drivers, mostly in the Southern Hemisphere. He has published extensively on a broad range of topics related to this theme, and his works appear in prestigious journals such as *Science* and the *Proceedings of the US National Academy of Sciences*.

Dr. Shulmeister's visit to UBC Okanagan extended from October 17 through October 31, 2015. During his stay in the Okanagan, he participated in a large number of activities, including:

**Opinion Piece:** Thursday, October 29, 2015 "Glaciers point to double trouble" The Daily Courier [http://www.kelownadailycourier.ca/opinion/article\\_fe4db7fe-7dc5-11e5-a773-63b8e47dbbd1.html](http://www.kelownadailycourier.ca/opinion/article_fe4db7fe-7dc5-11e5-a773-63b8e47dbbd1.html)

**Public Lecture #1:** Thursday, October 22 (7:00 – 9:00) "**Back to the Future: How New Zealand's ancient glaciers can help solve the riddle of Canada's changing climate**" Okanagan Science Centre, Vernon, BC. This event was attended by approximately 45 community members, and it was enthusiastically received with questioning period extending well into the evening. Executive Director Jim Swingle expressed great appreciation for UBC extending its reach to the Vernon community.

**Public Lecture #2:** Thursday, October 29 (4:30 – 6:00) "**From the Icebox to the Greenhouse: What New Zealand's glaciers tell us about climate change**" UBC O campus, Kelowna, BC. This event was offered to the university community as part of the Unit 7 Seminar Series. It was attended by undergraduate and graduate students, faculty members, and several community members, including Lake Country Mayor, James Baker. Several students stayed after the talk to speak with Dr. Shulmeister, and I have received much positive feedback from students about the talk. Dr. Shulmeister has reported that a few of these students are now following him on Facebook, and there have been expressions of interest to pursue graduate degrees with him.

**Classroom Lecture:** Monday, October 26 (2:00 – 3:30) "The Crisis of Global Wetlands" Course lecture in BIOL 375 (Instructor: Dr. Ian Walker).

**Radio Interview:** Wednesday, October 21 (7:45 – 8:00) CBC Morning Show with Chris Walker

Most of these public outreach activities were organized and advertised with the assistance of Mr. Matthew Grant (Associate Director, Public Affairs, UBC O) and Ms. Suann Brown (Community Engagement Office, University Relations, UBC O). These individuals were instrumental in connecting us to the broader community (via short newspaper ads and Twitter feeds), and their professionalism contributed immensely to the overall success of Dr. Shulmeister's visit.

**One-on-One Sessions** to discuss collaborative research and to explore areas of mutual interest with UBC O faculty members, including: Dr. Fes de Scally, Dr. Ian Saunders, Dr. Ian Walker, Dr. Robert Young, Dr. Bernard Bauer, Dr. Craig Nichol, and Dr. Ed Hornibrook.

**One-Day Field Excursions** to explore the surficial stratigraphy of the Okanagan region with a view to understanding the recent Fraser glaciation. Dr. Shulmeister and Dr. Bauer spent a total of 7 days in the field covering the area from Enderby in the North Okanagan to Oliver in the South Okanagan. On two of these days, we were joined by Dr. Robert Fulton who is a retired glacial geologist from the Geological Survey of Canada. Dr. Fulton has written several scholarly articles and reports on the surficial stratigraphy of the region, and he has produced some of the most comprehensive interpretations of the recent glaciations. We were also joined by Dr. Craig Nichol on one of these days who shared his experience and understanding of the subsurface stratigraphy of the Fortune Creek area near Armstrong. The observations, measurements, and discussions from these day-trips, supplemented by many hours in the office examining Google Earth images and DEMs has informed a preliminary research proposal that is currently in draft form.

One of the primary benefits arising from Dr. Shulmeister's visit was the exchange of ideas and interpretations of glacial features on the landscape. Dr. Shulmeister has spent close to 30 years examining glacially influenced landscapes in places such as Ontario, Washington State, and New Zealand, and he brings a wealth of experience and understanding. In sharing his perspective on a range of Okanagan features, we have come to suspect that the traditional interpretations of the recent glaciations are somewhat unsatisfactory, if not erroneous in part. Specifically, the hypotheses that there was a major 'catastrophic' flooding event, whether due to the drainage of glacial Lake Penticton or to subglacial meltwater processes, seems untenable based on the available evidence. As a consequence, we have begun to write a research proposal for funding that would allow us (with assistance from undergraduate and graduate students) to collect critical pieces of evidence that will support a different interpretation of the origin of the landscape features in the Okanagan. Ideally, this will lead to future opportunities in which students from UBC O and UQ can participate in exchange programs. There is a strong commitment from Dr Shulmeister for ongoing engagement with UBC O.