

SFU

SIMON FRASER UNIVERSITY
THINKING OF THE WORLD



EXPANDING
VANCOUVER'S
MINERAL EXPLORATION
CAPACITY



SIMON FRASER UNIVERSITY is seeking partnerships with private and corporate donors to strengthen capacity in mineral exploration. Donations will create university endowments in the Department of Earth Sciences that will (1) stimulate faculty and student research in mineral exploration, and (2) provide scholarships for students in mineral exploration.

DONOR BENEFITS

Attraction of students into careers in mineral exploration.

Access to professors and students at SFU trained in mineral exploration, bedrock geoscience and environmental geoscience.

Enhanced community relations through student scholarships.

Private or corporate naming of endowments.

Increasing demand for mineral resources

The steady growth in world metal prices reflects a decreasing supply of, and an increasing demand for, reserves of metallic mineral resources. Programs encouraging reduction in use, re-use and recycling are able to offset only a fraction of this demand, leaving mining as the principal method of supply. However, mines are finite resources with limited capacities and life-spans. In Western Canada, many mines have been mined-out, and are now closed. Notable examples include the Britannia mine on the Sea-to-Sky highway, the Sullivan lead-zinc mine near Kimberly, the Island Copper Mine on Vancouver Island, the Pine Point mine in the Northwest Territories and the Faro lead-zinc mine in central Yukon. This pattern of ore exhaustion in Canada reflects the global situation and emphasizes that the discovery of new mines is necessary to meet the ongoing and future demands for metals, and to guarantee a strong Canadian economy.

Increasing demand for trained geoscientists

Exploration for new mineral resources is the keystone to the global minerals industry. As existing mines are depleted, discovery of new mineral occurrences is essential. New discoveries will require teams of highly trained geoscientists who develop exploration strategies based on a wide variety of sophisticated methods.

The demographic profile of the mineral exploration community in Vancouver, and throughout North America, is skewed towards geologists at the ends of their careers. With a large proportion of the geoscience work force poised to retire over the next five to ten years, the demand for new geologists is nearing critical levels. The challenge for universities will be to provide enough geologists for the mineral exploration industry and to ensure that the new graduates are sufficiently educated in modern methods of exploration geoscience.

Increasing demand for research

The discovery of new ore deposits is becoming increasingly difficult. In the past, most new mineral occurrences were found by prospectors examining surface outcrops. The next generation of mineral occurrences will be located in challenging terrain or deep within the Earth's crust. Put simply, most of the world's more obvious and shallow occurrences have already been identified. In the future, ore deposit discovery and characterization will be made by more sophisticated methods involving the integration of geochemistry, geophysics, remote sensing and geobiology, complemented by standard geological methods. Research is required to facilitate effective exploration that will increasingly involve teams of highly specialized geoscientists that conceptualize where undiscovered mineral deposits are likely to exist, employ the most suitable and efficient methods of exploration, and successfully interpret a complex array of geological information.

SFU — in the hub of exploration activity

Vancouver is one of the world's principal centres for mining and mineral exploration. Hundreds of mining and exploration companies are based here, ranging from global industry leaders to junior mining companies and grass-roots exploration firms. Many exploration programs in Canada and throughout the world originate in Vancouver, and the results of mining and exploration activity are showcased annually at an international conference that attracts thousands of geoscientists — and investors — from Canada and abroad. Simon Fraser University is strategically located in the heart of Greater Vancouver and only minutes away from the Vancouver exploration community.

SFU's Department of Earth Sciences has an excellent track record in exploration geoscience. Nine of its sixteen faculty members have carried out research related to mineral exploration and are interested in developing stronger ties with the minerals industry. All of these faculty members are field-oriented, and many have worked cooperatively with exploration companies in various mining camps across Canada. In addition, many of our students follow a Geology Stream within the Earth Sciences program and graduate with the academic qualifications necessary for registration as Geologists with the Association of Professional Engineers and Geoscientists. Our graduates and their employers have found that the quality of education at SFU is excellent, and comparable to that available from the other first-rate geoscience departments in North America.

Endowed Chair in Mineral Exploration at Simon Fraser University

Based within the expanding Department of Earth Sciences, an Endowed Chair would stimulate new and exciting research into exploration models and methods and lead the education of undergraduate and graduate students in the rapidly evolving science of mineral exploration and ore deposit research. Housed within the newly constructed Technology and Science Complex at SFU, this Chair would build upon significant departmental strengths in traditional geology including mineralogy, petrology, sedimentology, structure, tectonics, geophysics and mineral deposits. The Chair in Mineral Exploration would complement the activities of Doug Stead, FRBC Chair in Resource Geoscience and Geotechnics, which includes underground and surface mining geotechnics. Dr Stead is currently actively involved in research directed toward the successful exploitation of mineral resources both in Canada and internationally. The establishment of a Chair in Mineral Exploration at SFU would lead to an exciting and valuable connection between the minerals industry and academia. The Research Chair's affinity with the exploration community would strengthen a vital link between the University and the private sector, and would provide an enhanced pathway for students at SFU to obtain summer or co-op positions and to begin prosperous careers in the world of exploration.

Partnership Opportunities

Simon Fraser University is seeking donations at three levels: \$5 million, \$2 million and \$1 million. In all cases, the University will invest the endowment and use 5% per year from interest paid to support research and student awards.

\$5 Million Endowment

A five million dollar donation would establish a new Research Chair in Mineral Exploration. The Research Chair will be a respected scientist with extensive experience in mineral exploration and strong ties to the minerals industry. Selection of the Research Chair will be made by the University through a recommendation from the Department of Earth Sciences.

At 5% of the principal, the annual budget from the endowment would be \$250,000, and could be allocated in this manner:

- \$125,000 salary for new Research Chair
- \$50,000 research budget
- \$75,000 in direct support for graduate and undergraduate research

\$2 Million Endowment

A two million dollar donation would establish a new Chair position for existing faculty in the Department of Earth Sciences. The position would likely transfer among appropriate faculty on a five-year rotation. At 5% of the principal, the annual budget from the endowment would be \$100,000, and could be allocated in this manner:

- \$50,000 research budget
- \$50,000 in direct support for graduate and undergraduate research

\$1 Million Endowment

A one million dollar donation would establish scholarships for graduate and undergraduate students. At 5% of the principal, the annual budget from the endowment would be \$50,000 and could be allocated in this manner:

- One \$25,000 scholarship for a graduate student
- Five \$5,000 scholarships for undergraduate students





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