A HISTORY IN STRATA: 100 YEARS OF U OF A GEOLOGY

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Four cases of geologic specimens were waiting in their exhibit cases in Assiniboia Hall. John Allan , who would eventually become a professional engineer in the self-regulated sense, was ready and waiting after receiving official notification that he would be the first lecturer in geology. And then the students came.

The first lecture in geology at the University of Alberta commenced on the morning of Sept. 28, 1912. It was a Saturday.

A century later, what is now named the U of A Department of Earth and Atmospheric Sciences has become one of the largest and most successful departments of its kind in North America. Its founding and growth relied on the skills, courage and dedication of many passionate individuals. Here we'll explore some of those individuals as we reflect on the highlights of the past 100 years.

The department's centennial website says that the aforementioned Dr. Allan founded the department on Sept. 1, 1912. An adventurer known affectionately as Hardrock Allan, he was an ardent explorer for coal, oil and natural gas who recognized that Alberta's greatest economic strength was its natural resources. He produced the first geological map of Alberta and its coal fields, which is still used by regulators today.

Dr. Allan almost lost his life while surveying a bank of the North Saskatchewan River in 1925 when his boat capsized 32 kilometres from Rocky Mountain House. Though he lost $500 worth of equipment, he was not deterred. Continuing his expeditions, Dr. Allan obtained dinosaur fossil specimens, rocks, minerals and aboriginal artifacts from every corner of Alberta, overloading the upper floor of the university arts building so much that cracks began to appear on the building's exterior. He was made head of the Geology Department and continued his work for the next 37 years, until his retirement in 1949.

Ralph Leslie Rutherford joined the faculty in 1923 as a mineralogist and petrologist. He believed students learned best when working directly with the material they were studying. To this end he organized and catalogued every existing specimen in the mineralogy collection, making sure it could be effectively used as a teaching resource.

In 1945 the Calgary campus of the University of Alberta was established and Dr. Charles Stelck, P.Geol. , and Dr. Robert Folinsbee, OC, P.Geol. , were brought in to help with the post-war boom in student enrollment. Dr. Folinsbee became the department head in 1955 and later founded the meteorite collection — the largest university collection of meteorites in Canada. Asteroid 187679 is named Folinsbee is his honour.

IN THE MUSEUM

Students (seated) and instructor Alan E. Cameron (standing), cica 1921. The 13 students are seated in front of a display of ore specimens in the Geological Museum, third floor of the Arts and Convocation Hall, University of Alberta.

Photo courtesy University of Alberta Archives #77-84-500

Established in 1957, the U of A Department of Geography offered physical, applied and human geography, as well as a specialization in meteorology. The department also developed Western Canada's premier map collection.

The 1960s and 1970s produced and developed the vertebrate paleontology program. In 1977 it received a donation of two million invertebrate fossils from four major oil companies and a large consulting firm. This inevitably led to computer retrieval systems for cataloguing the paleontology collection.

In 1980 Dr. Nathaniel Rutter, OC, P.Geol., FEC (Hon.) , became the chair of the geology department. At this time the experimental facilities of the department were improved with the installation of the USSA-2000 Superpress, which achieves simultaneous pressures of 27 GPa and temperatures of over 3,000 C.

In 1995 with Dr. Brian Jones, P.Geol. , as the new chair, the department of geology merged with the department of geography to become the Department of Earth and Atmospheric Sciences. It now offered five undergraduate degree programs. In 1999 the Earth Observation Systems Laboratory was created and gained an international reputation for expertise in remote sensing and geographic information systems.

And that brings us to the 21st century. The last few years in the department have been marked by specialized technology and the establishment of new facilities. The Shell Canada Core Viewing Facility was created after the donation of 6,000 metres of drill core, layout tables and funding from Shell Canada Limited.

ConocoPhillips Canada Limited donated funds for a Rigaku Ultima IV diffractometer. The De Beers Laboratory for Diamond Research and Centre for Earth Observation Sciences was founded. So was the Canadian Centre for Isotopic Microanalysis, and it now provides access to the IMS 1280 ion microprobe — one of the most advanced isotopic microbeam technologies in the geoscience field.

In 2010 the Canada Excellence Chair in Artic Resources was awarded to the department and as a result, this year, the Arctic Resources Geochemistry Research Laboratory began operations.

The website says that research in 2012 has led to some remarkable discoveries. Researchers from the department have confirmed a meteor shower came from Mars, developed imaging systems to help in the retrieval of bitumen, discovered a fossil trail of the earliest evidence of mobile life, and revealed a diamond footprint for identifying the origins of conflict diamonds.

The U of A Department of Earth and Atmospheric sciences boasts over 50 faculty members and over 140 graduate students. Its current areas of research are solid Earth sciences, paleontology, human geography, environmental sciences and atmospheric sciences. The department's fieldwork extends around the world.