



## October | Stephen Johnston, Geologist

### What do you do?

"I am a geologist, which means that I study rocks! Rocks are like history books; they provide a record of the development of our planet."

### Why is it important?

"There are three reasons why geology is important. The first is quite practical – our civilization is built upon raw materials drawn from the earth. Computers, cars and cell phones only exist because we have learned how to find and utilize metals, elements and oil and gas that lie buried in the Earth's crust. So one of the main jobs done by geologists is to seek out and find these resources. A second important contribution being made by geologists is, through the study of ancient rocks, to develop a history of our planet's evolution. Understanding how and why our planet has experienced such dramatic changes is a necessary first step toward maintaining our planet and insuring that humans will continue to enjoy a habitable, verdant Earth for a long time to come. The third reason is the simple joy of discovery."

### What does your research involve?

"My initial interest in geology was that it involves being outdoors! I still spend most of my summers hiking around making observations about the rocks that make up the mountain ranges. My favorite mountain ranges for study are the Rockies of BC and Alberta. I have also spent a great deal of time over the last 5 years examining the rocks in the mountain ranges of Europe, including the Alps of Switzerland, France and Italy, and the Variscides of Spain. The rest of the year I spend in my office and in laboratories, examining the data that I have collected, performing analysis on rock samples (for instance, to try and determine the age of the rocks), and writing up manuscripts that report my findings. I also attend meetings where geologists exchange information and update each other on their findings."



## What got you into it?

"Camping! I always had an interest in rocks, as I (like every other kid) would bring home rocks and ask my parents about some of the strange and wonderful patterns, colours and fossils that could be found in them. But what I really loved was being outdoors. A high school friend of mine told me that his older brother had a job as a geologist, where they paid him to camp out in the mountains of British Columbia (we lived in southern Ontario, about as far from a decent mountain as you could get). I couldn't believe it: paid to camp out in the mountains of BC! That was it – I decided in about two seconds that I would study to become a geologist."

## Did you ever want to be something else?

"I love writing. One of the unexpected yet pleasant surprises about being a geologist is that writing is such an important component of the job. I had aspired to be a writer of novels when I was in high school, and I spent a great deal of time writing stories and poetry. Now I get to spend a great deal of time writing scientific papers. Even in science it is important to tell a story and to present your story in a clear and exciting manner. I think of every scientific paper that I have ever written as a mini-novel."

## What do you like most about your work?

"The thrill of discovery! Geologists are detectives, trying to solve 'who done it' mysteries with tiny bits of evidence that lay buried in rocks that are millions and sometimes billions of years old. Talk about a 'cold case!'"

## What was your first summer job?

"My first 'geology' summer job was my own creation. Together with three other friends, we formed an exploration company and, upon graduation from McGill university, we set out to explore for gold in northwestern Ontario. We financed our expedition by raising money from existing exploration companies and from interested investors. Luckily for us we found a significant ore deposit that was eventually purchased by a major exploration company. We made enough money that our investors made a healthy profit, and I was able to afford to go back to school for an M.Sc."

## What 5 favourite artists or pieces of music do you listen to on your iPod?

"I love good classical music when I am writing – Beethoven and Liszt are my favorites. But I am also a great fan of classical rock and folk rock. I could probably live on a steady diet of Bob Dylan, Led Zeppelin, The Band and Neil Young for the rest of my life. Luckily my daughters and my students are constantly introducing me to new music, and much of it is fantastic. Probably my favorite current artist is the Dave Matthews Band."

## If you could meet one famous person for coffee who would it be?

"Nelson Mandela. My first job as a professor of geology was in South Africa, and that was only possible because Mandela did the impossible in freeing South Africa from Apartheid without warfare and the shedding of much blood. I think of Mandela as being the single most important human being of the second half of the 20th century."

