



January | Anthony Quas, Mathematician

What do you do?

I work on Chaos Theory: the study of what makes things unpredictable in the long-term. A particular example is the weather. Why are weather forecasts so unreliable? Is it just that we don't understand well enough how it works? Are our computers not powerful enough? Or is there something out there that makes it impossible to predict it?

Why is it important?

Chaos theory explains why many things are as they are (the weather is one example but there are lots more). Ideas from chaos theory can also be used to make communications secure and there are many other uses too.

How do you do your research?

Most of my research is done sitting at a desk with a big stack of paper! I also use computers some times. When you do mathematics you're often trying to see analogies between one problem and another. You're thinking about a problem and asking yourself "what does this remind me of?" If you find the right analogy it can guide you towards a solution.

Is there any special equipment involved?

There are only a few pieces of equipment involved in my research and nothing too special. I use computers, airplanes, pens and paper. The computer is used for testing ideas and typing up mathematical results. The airplanes are because my job involves a lot of travel. I have to meet with colleagues around the world to talk about mathematics. The most specialized things that I use are some computer programs for writing and doing Mathematics.

What got you into mathematics?

I always enjoyed doing mathematics. As a kid I don't think I knew what it was really about. I remember thinking one time "OK. I've learned to solve quadratic equations. I've seen a formula to solve cubic equations... I guess mathematics is about solving harder and harder equations." That really isn't what it's about. I think that mathematics is really about understanding the structure of things: why different problems that may look different are actually related.

Did you ever want to be something else?

Other jobs I thought about were pilot and computer programmer.

What do you like most about your work?

I really like the travel, meeting different people. I enjoy teaching and being around students. Also when mathematics works out you get a real buzz!

What are three achievements in your life that you are proudest of?

I wrote a computer program to solve the Rubik's cube. I read a book called "Teach yourself Spanish in 24 hours" and got so I could hold a (simple) conversation with someone in a bar in Chile. The other thing I'm often proudest of is the most recent article that I wrote.

What was your first summer job?

I got a summer job writing computer programs when I was 16.

How long did it take to become a professor?

After High School, I studied for 3 years to get my degree. Then I was a graduate student for 4 years (after that I could call myself Dr Quas). I then had my first actual job in a University for 4 more years. I was a "Research Fellow". It's a lot like being a professor but you mainly focus on the research part of the job.



There are also lots of opportunities for people who study mathematics at university for 4 years but don't do a graduate degree. It's a very versatile training, and math graduates get jobs in schools, hi-tech software companies, industry or finance.

What 5 favorite pieces of music do you listen to on your ipod?

Eeek! I don't have an IPOD. I enjoy reading though, and listening to classical music.

What's your favorite colour?

Orange

What are your favorite things to do when you aren't working?

I really like hiking (especially by the sea or in mountains).

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

Isaac Newton: he revolutionized the way we understand the world and laid the framework for how we think about things today. One thing I don't understand is the culture of secrecy that he and other scientists at the time had. Lots of discoveries existed only in their notebooks and were never published (at least not until someone else looked set to re-discover whatever it was!)

Why are you here at UVic?

I really like the people, the University environment, and the surroundings in Victoria.

What 5 words would you use to describe yourself?

Argumentative, agreeable (note the contradiction!), contented, adaptable, travel-happy.

To learn more about Anthony Quas
visit: <http://www.math.uvic.ca/faculty/aquas/index.html>

