Bio Sketch for Ben Martin

What area of maths do you mostly work in?

Mainly group theory (the abstract study of symmetry). Also cryptography (how to make and break secret codes), and quantum mechanics (the mathematics underlying the physics of very small objects such as atoms and subatomic particles).

Tell us a bit more...

Many objects in the physical world are symmetric in interesting ways: snowflakes, for example. Abstract mathematical objects are also often highly symmetric. Group theorists try to classify and describe possible types of symmetry. I'm interested in groups made up of "matrices". Matrices are arrays of numbers that are easy to manipulate (for mathematicians), but the resulting groups are hard to understand.

What areas of maths do you follow from a purely interest standpoint?

Number theory: the study of whole numbers. It's an intriguing subject because although it concerns the familiar operations of addition and multiplication, there are many difficult and subtle problems. For example, no-one really understands how prime numbers behave (a prime number is a whole number that is divisible only by itself and 1).

What were your best and worst subjects at school?

Best: maths
Worst: phys ed

When you decided you wanted to be a mathematician and why

It grew on me slowly. I thought maths was fun so I decided to study it at university. By the time I'd finished my PhD, I was hooked. I love the beauty and purity of mathematical problems. Being an academic means I'm free to work on the research that most interests me.

What training (degrees and subjects) you've done

BSc Hons in Mathematics and Physics (Otago). PhD in Mathematics (King's College London).

Most interesting place you've travelled with your research

Jerusalem: an ancient, fascinating, troubled city.

If you follow sport, what sport, and which team - if not, why not?!?

I try to follow the fortunes of the NZ cricket team, but more often than not it's just too depressing ...