

CALLING ALL

RATIONAL  
REBELS

WHEN YOU SET out to study maths seriously, a weird thing happens – you suddenly notice maths is everywhere. You also realise that others don't notice this fact, even if you are talking about something that is loaded with maths, such as a horse race, managing money or forecasting the weather.

You realise how much simpler the world would be if more people could see the number of incredible mathematical creations behind just about everything being said and done.

Mathematics has always been amazing to me, and landing a job at the Australian Mathematical Sciences Institute (AMSI) has only fuelled this amazement.

AMSI has opened my eyes to the phenomenal number and variety of jobs, and areas of fascinating research available to mathematics or statistics graduates.

Sadly, you can't escape the poor understanding, or appreciation, of the mathematical sciences in Australia.

However, I've had recent conversations with two professors: Professor Ian Chubb, Australia's Chief Scientist, and Professor Brian Cox, the UK's science pop star/celebrity physicist. They think, and I agree, that people are reawakening to maths.

Throughout history, humans have innately relied upon maths. Our Stone Age forebears used maths to survive: How many animal skins must we dry over summer? Do we need more or less grain to survive the winter?

So if cavemen could do it, then people should stop dividing themselves into maths *cans* and maths *can'ts*. Science, technology, engineering and mathematics (STEM) are open to all.

Professor Cox told me it's all about trends in attitudes; about being rebellious. Rational thought, he says, is rebellious ... and "being rational and basing your ideas on evidence is cool."

Professor Cox reckons it's time for scientists to be famous: "Science is more important than sport!"

Think about it. What do we use to predict climate change, to uncover terrorist networks, manage the environment, grow food, make crowded skies safe for air travel, use a mobile phone and reduce casualties through well-planned natural disaster management? Mathematical models, of course.

Oh, and they can also make you rich – just ask a top bond trader.

Mathematicians and statisticians can usually describe anything with mathematical models and algorithms. These are the recipes of mathematics. They are used to analyse data; to solve problems and mysteries. They help explain our universe.

It is the mathematically literate people who, figuratively speaking, make the world turn. Maths is pretty much where all technology and science starts.

So how do we get more people to notice and appreciate maths? A starting point is to take off the cloak of invisibility; bring the words 'mathematician' and 'statistician' back into job titles and descriptions, and day-to-day conversations.

We have to put STEM subjects back on the radar of parents, students and career advisers because out in the real world the demand for graduates in these fields is massive and accelerating.

Monash University's Centre of Policy Study predicts the need for PhD graduates in mathematical sciences will increase by 55.6 per cent by 2020. That's only six years away.

So seriously, if you want to be smarter, better, richer and happier – and valued by the world – join me. Book yourself a ticket to the STEM future! It's where the action is.

STEPHANIE PRADIER

Media and communications, AMSI

Physicist, ARC Centre of Excellence for Coherent X-ray Science

