

Murray Batchelor

Professor of Mathematics and Physics - ANU

HSC Year: 1979



Training (eg TAFE, University etc)

- 1983 – Bachelor of Science with Honours in Theoretical Physics – University of New South Wales (UNSW).
- 1987 – PhD in Mathematics – Australian National University (ANU).

Special Educational Achievements

- 1983 University Medal UNSW
- Pawsey Medal Australian Academy of Science (1997) for outstanding research in physics
- Medal Australian Mathematical Society (1998) for distinguished research in the mathematical sciences

Jobs (at university and afterwards)

- I worked at a research Institute in The Netherlands for a year after I graduated with my PhD.
- After that I have mainly been working at the Australian National University doing research and some teaching. My teaching is in the mathematics department. I also supervise postgraduate students.
- I have had visiting positions at Oxford University and University of Tokyo among others.

What are you doing now?

I am a Professor in mathematics and physics at The Australian National University. Since 2005 I have been Head of the Department of Theoretical Physics. I lecture in the mathematics department and do research on problems in what we call mathematical physics. This has been quite exciting lately because the kind of mathematical models that we have been playing around with for a long time have recently been seen to describe experiments in the lab with ultra cold atomic particles.

I am Editor-in-Chief of *Journal of Physics A: Mathematical and Theoretical*, which is a major international research journal based in the UK. The journal publishes around 1000 research papers per year. My role is to oversee the scientific aspects and development of the journal. Each year I chair the annual board meeting in London.

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I am an Honorary Professor at Chongqing University in Chongqing, China, where I visit regularly. Most recently I joined the Advisory Committee of Luoyang International School in Luoyang, China. This new school will open in Sept 2012. It will provide an opportunity for students in Henan Province to obtain an education incorporating an international curriculum into the traditional framework. The school will cover all years from kindergarten to high school and will prepare students for entry into local and overseas universities. I have been deeply impressed by the commitment of the Chinese people towards education.

Relevant Experiences since leaving school

- Scientists are very mobile. Through my job I have been able to travel to most countries in the world. There is always a conference or workshop being held somewhere. Talking directly with other people in your area of activity is always the best way to communicate results and to exchange ideas. So I have had a lot of enjoyable experiences related to travel.

Interesting Experiences

- Because I was interested in maths and physics and the outdoors I initially went to UNSW to study surveying. I thought that would be a great job. But while I was doing maths and physics in first year university I realised that I really did have some talent in maths and physics, so I drifted across to doing theoretical physics, with a lot of mathematics subjects. I became completely absorbed in it and quite successful to the point where it became my career. I never set out to become a theoretical physicist. While I was a high school student I never dreamed that could be possible. I thought you needed to be a genius. Sure, being a genius would be useful, but you can still achieve a lot by being clever and using some good old fashioned common sense. You might think that mathematics and physics is all known, with nothing left to discover, but that is far from the truth, there is so much that we don't know.

Other comments /Memories from Chatham High Days

Although having some ability, I didn't do as well at High School as I perhaps could have done. This was because there were so many distractions growing up in a place like Taree. With access to a car we would go surfing at Old Bar most mornings before school. Then we would be off to the beach again after school. We had some great school rugby league teams in the 1970s. I remember going to play against an under 13 team in Macksville and was shocked to see some of them had beards. The school athletics and swimming carnivals were always fun. The school cross country race often had a detour through a swamp. Handball was a big thing in the courtyard during recess.

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Tips for our students

- **Going to University (eg living away from home tips, university life)**

University is very different to high school. You don't even have to attend the lectures, so there is a lot of freedom. But the point is if you are dedicated and study effectively you will be rewarded with good grades.

- **Getting a job (during and after university)**

These days it is common for students to have a part time job while they are at university. Most universities have 6-8 week Summer Vacation Scholarships for second or third year undergraduate students. These provide full board and lodging and give a taste of what it is like to do research at University. University is also an opportunity to have a look around and talk to others to see what jobs you might be interested in later. You would be surprised just how useful basic training in science is to employers.