Q&A

Ian Anderson, an ecologist at the University of Western Sydney, Australia, has won the first annual ProSPER.NET-Scopus Young Scientist award for agriculture and natural resources.

Do you think this award will change your career?
Yes, I expect it will have an impact on my career. Awards such as this can be used as a springboard for applications for funding, promotions or new job opportunities. In particular, the ProSPER.NET-Scopus award is for scientists younger than 40, which is extremely important given that science is such a difficult game in which to get permanent positions.

What is the biggest challenge for today's young scientists?
It is simply getting out of the postdoc cycle and into a permanent faculty or full-time position. There's not an excess of funding in any country, so it is very competitive to get funding and there are limited opportunities for permanent employment.

Do you have a research strategy to further your career?
My tactic up to this point has been to balance some risky, technically challenging experiments that push the boundaries with more straightforward research. I consider the development of molecular-biology techniques, such as DNA fingerprinting of soil microbes, to be my greatest scientific achievement. It has opened up new avenues of research, helping to construct a picture of species distributions underground. But I balance that work with other experiments in which I have a more direct idea of where they will lead so that I can make the currency — publications and grant income — necessary for a young scientist to get the elusive faculty position.

Has 'sustainability' driven your research career?
In the early days of my career, I was purely interested in the ecology of a system or organism. Having studied these natural forest ecosystems for the past few years, I began to see the broader context of how organisms fit into ecosystems and into the planet in general. So, although I may not have realized it straight away, my work on soil fungal functions in nutrient and carbon cycling has sharpened my focus on sustainability of ecosystems from a biodiversity and conservation point of view.

Is there a single question that could sustain your research career for years?
For the next 10 years, the big challenge for me will be turning my research focus to climate change. I want to understand how these soil microorganisms are going to respond to climate change and what their role is in adaptation to and potential mitigation of climate change. We are really just starting to understand how soil fungi work, so there is a huge amount of fundamental ecology to do on the organisms themselves. At the broadest level, we need to understand the basic biology of organisms in order to address bigger issues such as climate change. ■

Interview by Virginia Gewin

POSTDOC JOURNAL

The many hats of science

On my first day of graduate school, excitement and anticipation consumed me. I have to admit — I was naive. I thought learning how to conduct research effectively would be the only necessary scientific training. My experiments monopolized my thoughts, and my emotions often found themselves intertwined with the pending results. I remember going over protocols in my head while lying in bed at night to make sure that crucial steps had not been overlooked.

However, I have learned that a career in science is much more than conducting experiments. Scientists wear many hats. They design controlled experiments, but they also assume the role of public speaker, writer, manager and mentor.

As I consider how my time as a graduate student, and now as a postdoc, has prepared me for a future in science, I think about my ability to wear these many hats. Over the years I have given many presentations. I've come to enjoy writing manuscripts and editorial articles. And I am working on improving my managerial and mentoring skills. In overseeing a project in the lab to map the locations of hundreds of transcription factors in the yeast genome, for example, I've learned how to effectively guide others who are dealing with experimental roadblocks.

If skills are hats that scientists wear, then I've got to collect them all. It's part of being a scientist — and it gives you an edge in an increasingly competitive job market. ■

Bryan Venters is a postdoctoral fellow at the Center for Eukaryotic Gene Regulation at Pennsylvania State University, University Park.

IN BRIEF

Women honoured

This year's L'Oréal-UNESCO Awards for Women in Science have gone to five candidates. Two won for their work on toxins: microbiologist Alejandra Bravo of the National Autonomous University of Mexico in Mexico City and biochemist Lourdes Cruz of the University of the Philippines Diliman in Quezon City. Two awards were given for work on diseases: to zoologist Rashika El Ridi of Cairo University and cell biologist Elaine Fuchs of the Rockefeller University in New York. The fifth award went to Anne Dejean-Assémat, a molecular biologist at the Pasteur Institute in Paris, for her work on leukaemia and liver cancers. Each laureate will receive US$100,000.

Geoscientist shortfall

A report from the US National Science Foundation (NSF) predicts that there will be a growing national need for geoscientists to address the problems of climate change, resource depletion, energy sustainability and environmental degradation. *GEO Vision: Unraveling Earth's Complexities through the Geosciences*, released on 15 October by the NSF's Advisory Committee for Geosciences, says geoscientists will increasingly be called on to assess how human behaviour is affecting Earth and its systems. Tim Killeen, NSF assistant director for geosciences, predicts that the 4,000 US geoscientists who graduate each year will not be enough to supply these needs.

Burnham expands south

The Burnham Institute for Medical Research in La Jolla, California, has opened a new facility in Orlando, Florida. The centre, called Burnham at Lake Nona, will employ some 250 research scientists focusing on cardiovascular pathobiology and metabolic signalling and disease. Scientific director Daniel Kelly says that the facility is recruiting 30 principal investigators to lead teams of three to five researchers and postdocs. During the 8 October dedication of the centre, the University of Florida announced that it will build a research facility and drug-development centre at the new life-sciences complex. This centre will hire 15–20 research scientists over the next three years, says Sobha Jaishankar, assistant vice-president for research at the university.