

# Putting People First for Science Success

Annabelle Duncan says that Australia needs high quality leaders who are trusted to nurture creative scientists and free them of pressures to deliver quick commercial “outcomes”.

Australia prides itself on the quality of its basic researchers, and quite rightly because we have a strong record of achievement. We must preserve this. However, our ability to capitalise upon our research and to create a knowledge economy is indifferent.

Developing a knowledge economy depends on three main factors – money, industry structure and people. Lack of money will definitely inhibit research, but rectifying this in isolation would be futile. A 2005 global survey of 1000 science-based firms by leading consultants Booz, Allen, Hamilton shows that once an enterprise spends over a minimum on R&D, the extra amount invested bears no correlation with ultimate success for the business.

R&D makes the biggest difference economically where relevant and receptive industries are already present, or where start-up companies can target global niche markets and multidisciplinary areas without facing competition from multinational giants as in pharmaceuticals. Successful Australian examples are Cochlear (the bionic ear) and ResMed (sleep disorder devices).

At the very heart of a knowledge economy are people who have the ideas, and we do not lack them. The culture in which they work determines whether they can develop those ideas for social or economic benefit.

Australia’s milieu for research is our major barrier to long-term success. Characteristically, our researchers are

driven by pressures to appear “high-performing and outcome-driven” over short timescales.

We need balance in the strange hybrid of anarchy and discipline. Highly innovative people tend to have a strong streak of anarchy. Restrict the anarchic streak too much and you inhibit creativity, but allow anarchy to rule and everyone works on their favourite topic, resulting in chaos. An element of discipline is needed to temper the anarchy.

This is what civilian scientists found at the end of WW II when they returned to universities from the disciplined world of military service in developing radar, for example. Much great science and technology flourished as a result.

Currently in Australia we seem to be working at the two extremes. In parts of our innovation system we have little discipline. In the name of academic freedom we have large numbers of fragmented, poorly resourced projects with little leadership.

In other publicly funded research, we have the push from remote, centralised planning groups who dictate what will be worked on. They require so-called “accountability” with requirements for long, tedious “investment processes”. Autocracy rules.

Hutch Ranck, Managing Director of DuPont Australasia, has said: “Leadership is a key ingredient and must be consistent”. He favours “a supportive culture, a listening culture”.

In tune with this, the kind of leaders



Annabelle Duncan with Bio21’s 200 Kv Transmission Electron Microscope, a facility it makes available for all University of Melbourne researchers. Credit: Sia Smyth

Australian research needs would be sufficiently decentralised down to the “coal face” in the labs for them to be trusted to take hard, rapid decisions when needed. They would have agility and flexibility to follow fresh leads and be backed when they play hunches. In nurturing the high performers, they must not fear being looked over their shoulders continually. Too much discipline clips the wings of scientists ready to fly.

To capitalise upon high quality science and produce original results we need the correct structure in our industry. Of course, to invest in creativity we still need adequate money that is competitive with international norms. Here we have lagged behind for decades.

But without confident science leaders and the right culture, the structure is meaningless and the money and talent are wasted. Let us get these people issues right first.

Dr Annabelle Duncan, a microbial ecologist, has broad experience in managing science as Deputy Director of the University of Melbourne’s Bio21 Institute and as a former Chief of CSIRO Molecular Science. *conSCIENCE* is a column for Australians to express forthright views on national issue. Views expressed are those of the author.