



ATA Scientific Study Award entries July 2014

THE QUESTION:

In the recent federal government budget many prominent scientific projects, initiatives, agencies and research organisations such as the CSIRO have not fared well.

Several changes are also in store for tertiary students including the announcement to deregulate university tuition fees and changes to student loan repayments (HELP).

What impact do you think these changes will have on our level of innovation and our ability to create the jobs in the future?

First Prize: Nathaniel Harris, PhD Candidate

University of Wollongong, Illawarra Health & Medical Research Institute; Faculty of Science, Medicine & Health

I was a happy little vegemite, eating breakfast, lunch and tea, Now I'm older seeing too much death and violence on TV, My Mother says I'm growing sour every single week, But I love my country right, I'm aware using conscious sight, Now I study in Australia within this democracy, It's said we're a free country but is that reality? The government has the hardest job most definitely, But are they always working for what's best of our country? Hmmm, maybe, arghh I find it hard to agree, Not by deregulating every university. What the world needs now is love and open minds, People caring for Earth not trying to make a buck and open mines, No secret agencies that are "protecting our shores", No corporates forcing polities to make unfair laws, Keep funding science, like the CSIRO, Because they've understood the Earth since a long time ago, I'm not left-wing or right, call me a straight shooter, A pragmatist worried about the present state and future, I want transparency and brainstorming in question time, Not just arguments looking like a pantomime, Open source intelligence - man that'd be sublime, To know the truth of the news not have to read between the lines, I want free education that anyone can seek and find, Let's support knowledge for all man and womankind, A big problem is misinformation to people told they're dumb, How will these people look at education when there's an added sum? Not kindly I assume, creating even more disparity, Our leaders need to unite, find some temerity, Whatever the case we won't outlast the sun, But there's billions of girls and boys right now under this one, And like I was they're a blank canvas to paint any way, That we choose so let's move forward positive to a new day, This world can change we can innovate, we're in the fray, We've got to rise like sea levels and wash poor policies away, Understand that us, the people, hold all the power, Spread knowledge like a seed and watch the world flower, Grow everybody's awareness upon this whole Earth, So we can make it shine from Reykjavik to Perth, But increasing the average university fee, Will just prevent the average person from getting a degree, It's as simple as that, and we can reshape this path, So let's pave a future for our families that'll last.



Runner up prize: Ms Sarah Laird, La Trobe University, Chemistry

Australia is a country blessed with many fine minds and innovative thinkers, a country which invented the bionic ear, the first electronic pacemaker, x-ray crystallography, the atomic absorption spectrophotometer, ultrasound, the black box flight recorder, polymer bank notes, and Wi-Fi, just to but a few of our many scientific achievements. So while a distinct lack of investment in science might initially appear to be short-sighted, unimaginative and somewhat crippling to our ability to continue to contribute to the betterment of our world; might we be able to view this situation as just one more challenge to overcome? Like our contribution to the discovery of penicillin, the cervical cancer vaccine or the eradication of smallpox, Australian scientists are adept at overcoming seemingly impossible odds. The lack of funding, and the inevitable flow on effect resulting in a lack of jobs available to those already struggling through their post graduate studies on less than the minimum wage, may indeed force more of our brightest minds overseas, but, as the “clever country” is it not our duty to export this abundant natural resource to those countries less fortunate than our own? And for those brave souls that decide to stay on here, against the odds, remember that Australia loves a battler, not to mention an underdog. So perhaps meditate upon these words of wisdom and encouragement left to us by Konstantin Josef Jireček: “We, the unwilling, led by the unknowing, are doing the impossible for the ungrateful. We have done so much, for so long, with so little, we are now qualified to do anything with nothing.” Such circumstances can only usher in a new age of brilliant Australian innovation, an age that will have to be truly brilliant to be able to match our previous achievements with so little financial support or encouragement from our leaders.

Runner up prize: Andrea Fullagar, University of New South Wales, Centre for Ecosystem Science

The recent federal government budget brought everyone together – to rally against the proposed, seemingly endless cuts to public services including CSIRO and the Australian Renewable Energy Agency (\$40 million this financial year) as well as the deregulation of Australian University tuition fees. Australia’s future in science and innovation had been blackened. The latest approval by Environment Minister Greg Hunt of the Carmichael Mine in QLD’s Galilee Basin is dirty indeed. It will destroy native habitat in order to construct six open-cut pits and five underground mines that will cover an area the size of Sydney Harbour, times by seven. It will involve expanding existing ports along QLD’s coast and dumping dredge spoil in the Great Barrier Reef World Heritage Area. This comes at a time when UNESCO has threatened to change Reef’s World Heritage Status to ‘in danger’ amid fears of its ecological degradation. If the direct ecological impact is not alarming enough, then consider the Great Artesian Basin. Every year the Carmichael mine will require 12 billion litres of water, effectively reducing the groundwater available to supply the agricultural industry to grow food. Whilst, politicians were debating over the merits of the carbon tax, an emissions trading scheme or the Direct Action Plan, the approval of the Carmichael mine has effectively negated all significance of these policies. Every year 130 million tonnes of carbon dioxide will be emitted (and continue for the 90 years that the mine is in operation). And every year Direct Action would reduce emissions by 131 million



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tonnes per year. This is a classic case of 'offsetting' the impact but not actually achieving the objective of reducing carbon emissions. . As the mining industry in Australia powers along, investment in scientific research and innovation is perceived as slowing down economic "growth". While Australia's percentage of researchers is similar to North American countries and the European nations, we are behind when it comes to researchers working in privately owned business enterprises. We need scientific innovation programs that diffuse into the private sector, such as the renewable energy sector. This would remove our reliance on unstable government funding and also allow more public funds to be invested back in to higher education and research. The Government talks about creating jobs by supporting the mining industry and yet many more jobs could be created by investing in innovation. Would this not be progress?