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All eyes on China

Research collaboration, both domestically and internationally, is a theme ‘in vogue’ at the moment, even if, as Australian Science Academy president Professor Kurt Lambeck recently pointed out*, Australian funding bodies have yet to put their money where their collective mouth is. However, for a small country to stay in the knowledge transfer game it is not only about money but also about building smart alliances. In this respect it is notable that, on an institutional level, the focus is increasingly on Asia as is evident by the numerous research links formed between individual Australian universities and their Asian counterparts.

A new alliance, officially launched in August, is among a few examples to take this development a step further. The Australia–China NanoNetwork is forged between two university networks: the Australian Technology Network (ATN) with its 5 member universities; and the Chinese International Strategic Technology Alliance, which includes 24 of China’s top universities. The two alliances have agreed to work together in one of the most promising current scientific areas: nanoscience and nanoengineering. Its overarching aim is to coordinate the collaboration of member universities in academic exchange, research, knowledge dissemination and knowledge transfer for commercialization.

RMIT Emeritus Professor Neil Furlong, who coordinates the NanoNetwork, says a particular aspect of this alliance is that Chinese universities are, by and large, not used to working collaboratively with each other. This is despite often having individually strong international links. However, there is a growing imperative in China to change this, he says. In fact, it was ISTA that had years ago approached the ATN to engage in the partnership, which may have been partly motivated by the ATN providing a good working model for how universities can work together. China, says Furlong, also recognises the less hierarchical research environment in Western universities and is interested to learn from this different, interactive way of pursuing research. In addition, there is a general push in the country for their researchers to get an international reputation - and there are considerable resources available to support this.

Over years of friendly exchanges and workshops the partnership developed an understanding of working together on specific research topics. Based on existing expertise across both university networks and it being also a priority area in the Australia-China fund, nanoscience was chosen as a topic, with a particular focus on advanced materials for the environment, renewable energies and health care.

Professor Furlong says that in any given collaborative project he would expect that only around 4-5 of the 24 ISTA universities would participate, compared to at least 3 ATN universities, which is a reflection of the greater specialisation of Chinese universities in certain areas. As an example of the process, a workshop in Adelaide following the launch explored possible collaborative projects in nanomedicine. Reciprocal meetings in China will then crystallise which of the ISTA universities could be involved. “The ATN-driven projects will bring the Chinese universities together into a single forum encouraging collaboration,” says Professor Furlong. The involvement of the ATN universities may act as a lubricant or catalyst in the process of bringing selected Chinese universities together.

From an Australian point of view, this will improve our general understanding of how Chinese universities work collaboratively, their priorities and their expectations on high quality research. But importantly,

Artist’s depiction of Nanotechnology

image: Murray Robertson



Australia will benefit by accessing the high skill base and infrastructure that is not readily available in Australia.

There will be exchanges of students and researchers with the expectation of a new generation of scientists within the ATN network with established research networks in China. The ATN has a strong focus on Asia, Furlong says, which also recognises that India and China have made enormous investments in research.

There could be organisational, policy and cultural challenges. “When you bring distant systems and cultures of research together you have to be ready for the fact that some of the paradigms and ways in which research is done and viewed are different and we need to address them,” Furlong says.

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As part of the collaboration students will be jointly supervised and, further down the track, there could be joint degrees. There is also the issue of intellectual property. Professor Furlong says the approach the ATN has taken is to enter the agreement in ‘Good Faith’.

In a good and trusting relationship that has developed over time – a very Chinese way of doing business – these issues can be negotiated and solved in a practical manner when they come up, he says, “... rather than spending a lot of time upfront worrying about it.”

In Australia, the application of nanotechnology, particular in health care, is not without controversies and subject to tight regulation. However, in dealing with China, Professor Furlong does not see a big issue here. Projects ATN engages in will have to meet Australian ethical and regulatory standards. In any case, Chinese universities within the alliance have their own very specific regulation and, he says, by entering the alliance “we are not becoming the guardians of their ethical or regulatory standards.”

Since launching its website, the alliance has already attracted interest from other parts of the world, but there is no intention as yet to broaden the scheme. The current focus is on getting projects fully operational and the funding organised – the alliance has applied for a major grant through the Australian-China fund.

No steps have been taken yet to involve industry partners, although the nature of the research and its potential outcome is likely to attract commercial interest. Professor Furlong says this could be explored in the next stage of the alliance.

► **More information:** www.atn.edu.au/AustraliaChinaNanoNetwork/news/default.htm