

Sino-Australian partnership on nanotechnology research

Rachel Lebihan

Australian researchers will partner those at Chinese universities in the field of nanotechnology after they finalise an agreement later this week to establish what will be known as the NanoNetwork.

The Australian Technology Network will sign an agreement with the International Strategic Technology Alliance at its annual conference in Brisbane this week.

The emerging researcher network will include all five ATN universities and researchers from Southeast University, Shanghai Jiao Tong University, Tongji University, Nanjing University, and the University of Shanghai for Science and Technology.

ATN executive director Vicki

Thomson said the network would focus on nano-science and its application to improving water quality, enhancing the efficiency of renewable energy systems and the development of novel health diagnostics.

NanoNetwork projects have been scoped to include the development of new nano-membranes for water separation – for example, in desalination plants and water recycling, solar energy conversion, and core-shell nano-particles for the removal of contaminants such as bacteria, and the delivery of cancer drugs.

Nanotechnology involves the control of matter on an atomic and molecular scale – generally 1/100,000th the diameter of a human hair – and developing a new generation of materials or devices within that size.

“A key advantage of the network will be its capacity to bring together researchers with the complementary skills and interests necessary to tackle research questions of substance. Whilst sometimes these skills are

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RMIT RESEARCH FELLOW VIPUL BANSAL

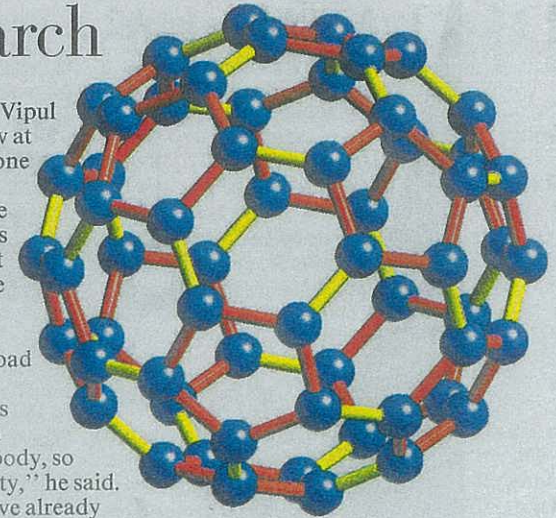
available within one university, more often they are not,” Ms Thomson said.

One collaborative project under way in the medical diagnostics area is the use of nano-particles to enhance the delivery of drugs to sites in the

body, such as a tumour. Vipul Bansal, a research fellow at RMIT University, said one of the limitations for cancer treatment was the high toxicity of the drugs required, which meant it was important they were targeted to very specific locations in the body.

“So what we do, we load these drugs onto nano-particles and use them as carriers to transport to a specific location in the body, so we can reduce the toxicity,” he said.

RMIT researchers have already done work on producing the nano-particles and Chinese researchers at Nanjing have already developed techniques for evaluation.



Nano states . . . the partners will explore water quality, energy and health projects.

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