

Nano is moving to the Center of Excellence in Australia

In Jan.2001, the Australian government announced the A\$3 billion Backing Australia's Ability: An Innovation Action Plan, which focuses on 3 key elements:

- a) Strengthening Australia's ability to generate ideas and undertake research;
- b) Accelerating the commercial application of these ideas; and
- c) Developing and retaining Australia skills.

The Australia Research Council (ARC, the key funding agency for Australian Science and Technology focusing on fundamental science, www.arc.gov.au) received additional A\$736.4 million over 5 years for doubling ARC competitive grants funding. Under the National Competitive Grants Program, four priority areas for ARC 2003 funding were announced in Jan 2002, which include:

1. Nano-materials and Bio-materials
2. The Genome-Phenome Research
3. Photon Science and Technology
4. Complex/Intelligent Systems

A\$170 million has been allocated from 2003 to support projects and centers for up to 5 years. A\$90 has been allocated for 5 years for the ARC Center of Excellence (COE) program starting 2003 for 8 centers located around Australia.

The Nanotechnology related COE include:

1. Quantum Computer Technology
2. Quantum-Atom Optics
3. Advanced Silicon Photovoltaics and Photonics
4. Ultrahigh-bandwidth Devices for Optical Systems

In addition, there is over A\$45 million investments committed by State Governments, venture capitals, and other business investors.

The list Center of Excellence related to Nanotechnology can be summarized as follows:

Project	Host University	Coordinator	Total Funding 2003-2007	Priority Areas
Quantum Computer Technology	Univ. Of New South Wales	Prof. R. G. Clark	A\$14million	Nanomaterials NanoElectronics
Advanced Silicon Photovoltaics and Photonics	Univ. Of New South Wales	Prof. S. R. Wenham	A\$12.175million	Nanomaterials Nano-photonics
Ultrahigh-bandwidth Devices for Optical	Univ. of Sydney	Dr C. M. de Sterke	A\$11.514million	Nanostructures Nano-photonics

Systems				
Quantum – Atom Optics	Australian National Univ.	Prof. H.A. Bachor	A\$10.95million	Nanomaterials Nano-photonics

At the state level, the Queensland government launched the Smart State Research Facility Fund initiative aiming at simulating innovation in Queensland state. During the 1st round (2001-2002) funding, A\$63 million was allocated to 6 projects, one of which is the Australian Institute for Bioengineering and Nanotechnology (AIBN). This is a A\$60 million institute with funding coming from the state government, the Univ. of Queensland and an overseas philanthropic organization. The AIBN will be established at the Univ. of Queensland as a national center of excellence to help positioning the State of Queensland at the forefront of nanobiotechnology. Another funding related to nanotech is the Cryo-electron Microscopy Facility for Queensland at the Univ. of Queensland. This facility is A\$5.2 million facility and about 30% came from the state.

One of the key characteristics of Australia nanotechnology lies in education. Australian universities such as Flinder Univ. Univ. of New South Wales, Sydney Univ. and others have been operating undergraduate and graduate programs.

Australia, like other part of Asia Pacific, has placed Nano as a priority in its science and technology policy-making in both state and federal government level. Australians are becoming more aggressive in pursuing international collaborations in R & D and commercialization. One should note that there is plenty of room at the down-under!