

ISTA



Update

The Australia/China NanoNetwork

An initiative of the Australian Technology Network (ATN)
and the International Strategic Technology Alliance (ISTA)

Neil Furlong

2010 ATN Meeting

BUILDING PARTNERSHIPS FINDING SOLUTIONS



ISTA

International Strategic Technology Alliance

... a consortium of 23+ Chinese universities including many of the best ranked ...

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Background

2005 – 2006 ISTA/ATN discussions/Agreement towards possibilities for research collaboration (eg Nanjing, 2006)

2007 Proposal for 'nanoscience/nanotechnology' focus discussed at ATN and ISTA meetings (Hong Kong)

Scoping ATN/ISTA nanoscience Workshop (June, Nanjing)

Early 2008 Draft MOU proposal for NanoNetwork supported at ATN Annual meeting (Adelaide, February)

Late 2008 In-principle support for the (establishment) of the NanoNetwork (Xian, October)

Chinese Research is On The Move !!!

Chinese research : (according to Thomson Reuters) :

- publications from 20,000 to 112, 000 since 1998
- now second only to USA (+30%)
- concentrated in physical sciences/technology
(especially materials chemistry and physics)
- based on 10,500 journals monitored by Thomson
- publications in engineering by-passed the US in 2007
- joint US/China publications rapidly increasing



February 2009

Joint Signing of MOU for the ATN/ISTA NanoNetwork

NanoNetwork Objectives

- to encourage and **facilitate research collaboration** between ATN and ISTA researchers with complementary interests in nanoscience/nanotechnologies;
- promote networking via the ATN and ISTA to position research teams to tackle **research questions of significance** and relevance to our national research agenda;
- to enhance the delivery of **high quality research outcomes** by researchers;
- to enhance the **growth of new generation research graduates** in 'nano' domains;
- **promote technology transfer** of research outputs to industry, thus contributing to economic development of the society.

Initial Research Foci : **Nanoscience in Health, Environment and Renewable Energy**

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Melbourne Age Newspaper, 17/10/2009



**Green China
set to dominate
renewable
energy boom**

Australia's Minister for
Climate Change



Penny Wong could learn
much from China's policies,
writes Mathew Murphy

..... the rapid progress
China is making in clean
energy development. In
fact , in many aspects,
China leads the world in
the fight against climate
change.....

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Key characteristics :

- **lead researchers** define the research foci around complementary research capabilities and priority research areas
- **interactions between researchers led by researchers**
- **strong organisational leadership and support from universities**

An 'institutionally managed' Network

NanoNetwork Activities since February 2009



- Nanjing University researcher visits RMIT to start collaboration project on nanodiagnostics *(\$23 K Grant by Australian Govt)*
- Southeast university researchers (3) visit RMIT (Melbourne), University of South Australia (Adelaide) and Curtin University (Perth) to start collaboration projects on nanomaterials in health diagnostics and therapies *(\$30 K Grant by Australian Govt)*
- NanoNetwork Application to Australia/China Fund for Project on Nanomaterials in Renewable Energies (involving all ATN universities and Tongji, Nanjing, Nanjing Aeronautical and Shanghai University for S&T) *(funding not granted !!)*
- Nanomedicine Workshop (August, Adelaide) on nanoscience – to determine potential areas for focus for NanoNetwork *(ARC proposals in preparation)*
- March 2009 : Delegates of USST visited RMIT.
- October 2009 : ATN representatives visited Wuhan U of Tech (WUT), Huazhong U of S&T (HUST), Fudan U (FDU) Shanghai Jiaotong U (SJTU) and several other ISTA members.



Current ISTA Partner universities

Area : Renewable Energy : Nanjing, Tongji, Shanghai Uni for S&T and Nanjing Aeronautical

Area : Nanomedicine : Southeast, Nanjing, + Shanghai Jiao Tong, Wuhan S&T and Huazhong

= ATN + the Shanghai Corridor !

Some recent Outcomes !!



- Several joint research papers on nano-particles between Nanjing university and RMIT university
- Successful Australian Research Council Discovery Grant around collaboration between University of South Australia and Nanjing University for Aeronautics (ca \$380,000)
- Joint Project Agreement formalised between with Tongji university in potential cancer nano-therapies – QUT lead with other ATN's potentially involved
- Professors from Southeast and Nanjing University of Aeronautics invited as Adjunct Professors to ATN universities
- ATN recruiting up to 10 new PhD students for 'Renewable Energy Project' with Chinese Professors as co-supervisors

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Support Activities since February 2009

include

- establishment of NanoNetwork web-site
- building of ATN and ISTA researcher capabilities on-line data-base
- distribution of NanoNetwork (3) Quarterly Information Bulletins
- promotion/publicity – press/media articles, Shanghai Expo
- funding applications
- formation of NanoNetwork ‘Researcher Advisory Group’

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Some new initiatives being considered

- new projects in nanomedicine (point of care diagnostics ?, water quality ?, skin care ?) – **ARC Proposals**
 - Nanoscience Summer Schools for Australian and Chinese researchers and PhD students (Adjuncts, short courses) to be held in Suzhou late 2010 – **Chinese funding application submitted**
 - potential for technology transfer collaboration between enterprises in China/Australia and ATN/ISTA universities – **via HK Fund**
 - Australian researcher exchange to Southeast University - **Chinese funding application submitted**
- and always seeking new funding sources

Key Challenges



- Sustaining the Australia/China dialogues
- Achieving external funding support
- Engaging project leaders across the ATN
- Effective management of cross-university projects

Delivering value to counter the ‘everybody is already flat-out’ syndrome

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Thank You