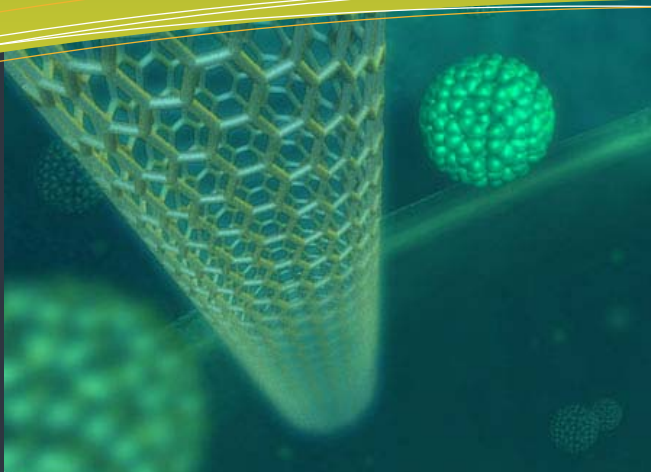


# The Australia-China NanoNetwork Information Bulletin



*“to promote collaborative research projects and research training ; addressing key contemporary research challenges through nanoscience”*

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## Small solutions to big problems

ATN members of the Australia-China NanoNetwork will shortly be hosting researchers from Southeast University, Nanjing, who will be visiting Australia for the purpose of establishing Sino-Australian partnerships to examine some of the significant research questions of our time by using nanoscience and the myriad capabilities it brings.

The research questions that we face in the 21<sup>st</sup> century are not the kind that will be solved by academics working in isolation. Climate change and the new technologies we will need to adapt to its effects; reliable and efficient fresh water supply for communities across the globe (including Australia); next-generation energy generation that is both environmentally friendly and renewable; the big questions in health – the solutions to these problems are by no means simple and it is through cooperation between researchers from diverse backgrounds that they will be found.

Establishing long-lasting researcher networks lays down the groundwork for such cooperation. To encourage that goal, in August Professor Ning Gu and Drs Jianfei Sun and Xin Chen from Southeast University, Nanjing, will visit RMIT University, UniSA and Curtin University to meet with ATN members of the recently launched Australia-China NanoNetwork and undertake ‘proof of concept’ experiments in detection of health related toxins such as bacteria in water and their separation, and renewable energy.

During their visit, the visiting researchers will also participate in the network’s upcoming Nanomedicine Workshop (see page 2), at which Professor Gu is the keynote speaker. The Workshop is expected to involve researchers from all the ATN universities as part of planning for future collaborative projects for the Australia/China NanoNetwork.

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## Researcher profile: Professor Ning Gu

Professor Gu obtained his bachelor degree in radio engineering from Nanjing Institute of Technology, master and doctoral degree in bioelectronics and biomedical engineering respectively from Southeast University. He has been a visiting scholar to Tokyo University, Yamanashi University, National Institute of Materials and Chemical Research (NIMS) and Institute for Molecular Science (IMS).

Currently, he is the Dean of the School of Biological Science and Medical Engineering, and the Director of the Research Centre for Nanoscale Science and Technology in Southeast University. Professor Gu has published over 180 journal papers on organic materials, thin films, AFM characterization of biomaterials, nanoparticles and nanofabrication for biomedical applications. His current research interests include functional nanomaterials, molecular assembly, nanofabrication, nanodevices, and their applications in biomedicine.

# Nanomedicine Workshop 26-27 August 2009 University of South Australia

The Australia-China NanoNetwork is planning an international workshop on Nanomedicine. and wishes to hear from ATN and/or ISTA researchers interested in participating in/contributing to this Workshop.

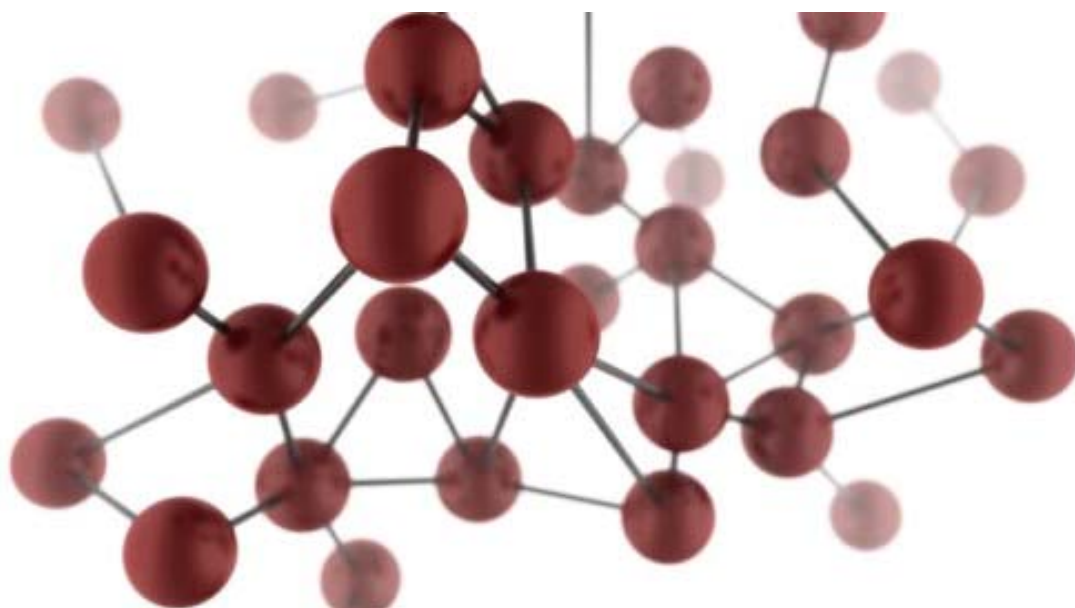
Nanomedicine, the application of nanoscience and nanotechnology in medicine, offers the prospect of remarkable progress in global healthcare and diagnostics. The Nanomedicine Workshop proposes to cover recent developments from laboratory research to translating novel ideas to clinical trials. The Workshop will provide an opportunity for participants to learn from research leaders in the broad field of nanomedicine. It will also

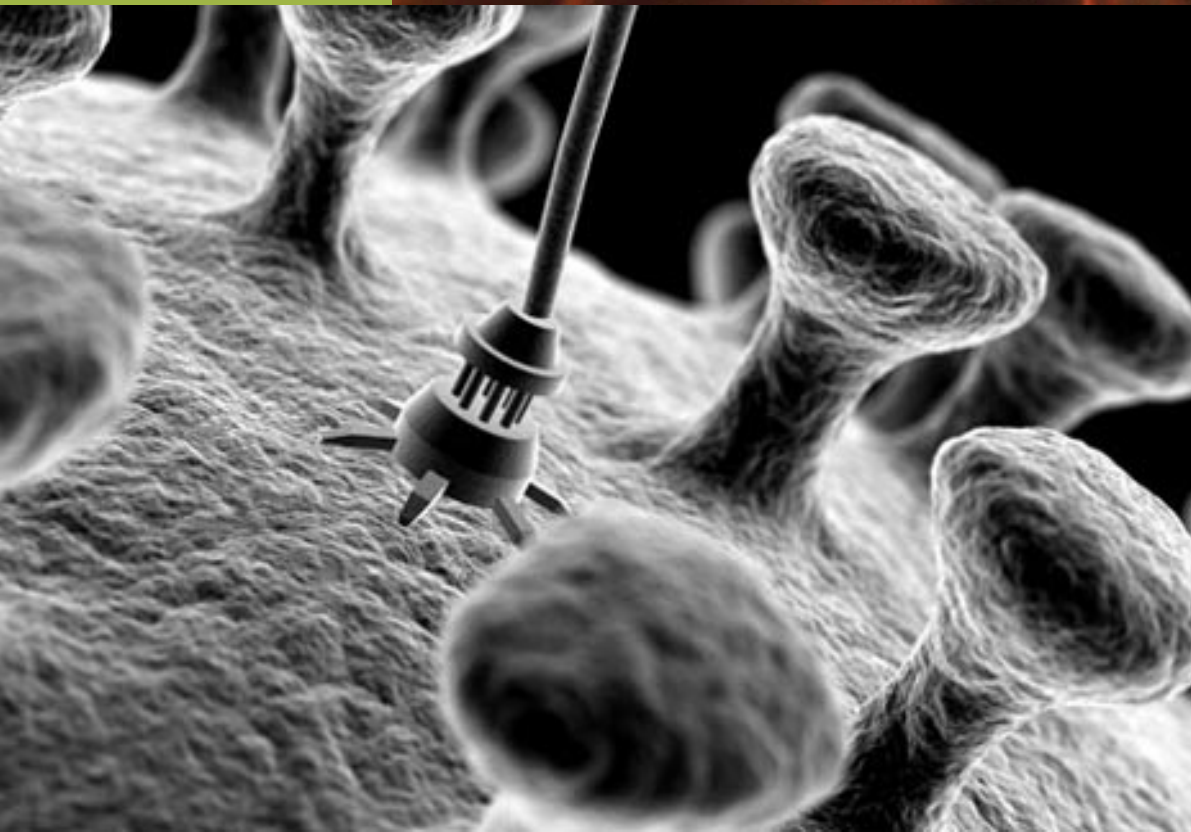
provide a platform for the exchange of cutting-edge ideas and foster the establishment of collaborative research projects between ATN and ISTA nanoscientists. The Workshop scope will include, but not be restricted to: nanoparticles enhanced biomedical imaging, drug delivery, nanobiosensing, nanodiagnostics, and the synthesis and characterization of advanced nanomaterials in view of their medical and biomedical applications.

The keynote speaker, Professor Ning Gu, Director of the Research Center for Nano-scale Science and Technology at Southeast University, is one of the foremost nanoscientists in China in the area of functional nanoparticles.

The event will be preceded by a cocktail function on the evening of 26<sup>th</sup> August, at which the formal launch for the Australia-China NanoNetwork and website will take place. It will be hosted by the University of South Australia's Vice Chancellor and also attended by external stakeholders with an interest in nanoscience/nanotechnology and Sino-Australian relations.

If you wish to contribute to, or participate in, this Workshop please contact Mr Matthew Hee: [matthew.hee@unisa.edu.au](mailto:matthew.hee@unisa.edu.au), **no later than 1<sup>st</sup> August.**





## NanoNetwork builds partnerships

Professor Zheng Hu (Nanjing University) and Professor YongXiang Li (Chinese Academy of Sciences) were recently awarded Australian Leadership Award (ALA) Fellowships to travel to RMIT University to undertake work with A/Professor Kourosh Kalantar-zadeh and Dr Vipul Bansal.

Professors Hu and Li have recently attended the Materials and Aust-ceram 2009 Conference in Brisbane, and are currently visiting RMIT to work with NanoNetwork researchers there on the use of carbon-nanotubes and other functional nanomaterials for fuel cell and sensing applications. The award of these ALA Fellowships shows how initiatives such as the Australia-China NanoNetwork, with the scale and capability to link researchers from universities in Australian and China, can serve to aid in building mutually beneficial research linkages.

## Researcher profile: Dr Vipul Bansal



Dr Vipul Bansal is currently APD Fellow of the Australian Research Council and exploring his ARC-Discovery Grant on "Biomimetic synthesis of multiple non-metals codoped titania nanoparticles for visible-light photocatalysis" at RMIT University. Vipul obtained his PhD in 2007 from National Chemical Laboratory (NCL) India in the field of Nanobio-technology. Thereafter, he worked as a Postdoctoral Research Fellow at the University of Melbourne, where he investigated biocompatible polymer nanocapsules for targeted cancer therapy applications.

During the last 5 years, Vipul has published 40 referred articles that include one US Patent, and 23 high impact journal articles, which have received close to 250 citations and wide media recognition. As a Tenure Track Academic at RMIT, he is currently supervising 7 PhD, 1 Masters and 2 Honours students. He is currently enjoying his research towards tailored synthesis of multifunctional nanomaterials for a wide range of applications including drug- & vaccine-delivery, MRI & bio-imaging, chemo- & bio-sensing, electro- and bio-catalysis, and antimicrobial applications of nanomaterials.

Vipul participated in the recent visit by Professor Zheng Hu (Nanjing University) and Professor YongXiang Zu visit to RMIT, and is a co-organiser of the upcoming NanoMedicine Workshop.