

ARCNN News. Edition 14, July 2007



Welcome

Dear Members and Friends

Welcome to the fourteenth edition of the ARCNN News.

We are in the process of revamping the Newsletter to bring more information which is of interest to you. We plan to include newly established facilities, funding deadlines, special issues of journals, new books, conferences and member news. If you want to see any additional items in the newsletter, please let us know.

The **Nanotechnology Web Based Forum is now live.** This Nano Forum has been set up to create and stimulate discussion on nanotechnology related matters. We encourage all members to register and take part in this forum.

Many Lecturers have visited Australia and given seminars and CDs of these seminars are available FREE to ARCNN members and friends.

Nanotechnology Facilities and Expertise Database will benefit the entire Australian Nanotechnology Community including Govt policy makers. Please submit your expertise and facility details using the ARCNN webpage.

Congratulations to the new Federation Fellows and the new Fellows of the Australian Academy of Science who are working in the field of Nanotechnology.

Preparations for ICONN 2008 are underway and the Conference will be held in Melbourne from 25th-29th February 2008. ICONN 2008 will be co-chaired by Paul Mulvaney and Abid Khan and will feature a new industry stream. High profile plenary and invited speakers have confirmed their participation in ICONN 2008. More details on the ARCNN web page (<http://www.ausnano.net/iconn2008/>). Abstract submission deadline is Sept 20, 2007.

The Australian Government has recently announced funding of \$21.5 Million over 4 years to establish the Nanotechnology Strategy. Further information can be found on the DITR web site.

Look forward to your active participation in the Network activities
C Jagadish, Convenor

Update profiles, address changes etc

Please remember to **advise address and email changes** so that the ARCNN member database is kept up to date. Your current details can be checked on your online profile at <http://www.ausnano.net/index.php?page=profiles>.

If you have not submitted an online profile, we would encourage you to do so as this provides a valuable resource for researchers seeking **collaboration** with people who have experience or expertise in a particular nanotechnology area. A **search facility** is provided on the Members Profiles webpage. Researchers looking to fill postdoc **positions** may also use the member database to locate students with research interests and experience in particular fields.

ARCNN Nanoforum

The ARCNN nanoforum (<http://forum.ausnano.net.au/>) is now fully online and ready for use. It is intended to serve as a bulletin/discussion board for the nanotechnology community in Australia, so if you'd like to post notices there (e.g., positions open, confs/workshops, events, questions, discussion points, etc), please feel free to do so. You will need to register first, which you can do by clicking the register link at the top left corner of the website. When registering could you please ensure that your username is reflective of your actual name (e.g, surname, firstname_surname or something similar), so that people can identify who is making postings. Adam Micolich is the current moderator for this forum, if you have problems, questions or suggestions for topics to be posted to the forum site, feel free to email him at mico@phys.unsw.edu.au

ARCNN Overseas Travel Fellowships – 2nd Round 2007

The ARCNN offers 5 awards of up to \$5000 every 6 months to PhD students and ECRs to assist them in carrying out collaborative research in overseas institutions.

Deadline for the next round of this year's Overseas Travel Fellowships is the 31st August. More information can be found at

http://www.ausnano.net/content/overseas_travel

ARCNN Long and Short Term Visits

Congratulations to the successful applicants for long and short term visits:

- Massey De Los Reyes (University of South Australia) – long term visit to the Australian Nuclear Science and Technology Centre
- Wee Yong Gan (University of New South Wales) – long term visit with Prof Huijun at Griffith University
- Herbert Wong (Macquarie University) – short term visit to the Research School of Earth Sciences at the Australian National University and the School of Chemistry at the University of Melbourne

The ARCNN offers Long term and Short term funding for visits within Australia to successful applicants throughout the year. Further information about any of the funding available can be found at: http://www.ausnano.net/content/funding_and_sponsorship

Young Nanotechnology Ambassador Awards 1st round 2007

Congratulations to the winners of the Young Nanotechnology Ambassador Awards:

- Dr Joel Gilmore (University of Queensland)
- Mr Ashley Stephens (The University of Melbourne)
- Ms Jennifer Riesz (University of Queensland)
- Mr Martin Cole (University of South Australia)
- Mr Kenneth Wong (University of New South Wales)

The ARCNN will award selected students/ECRs in each state/territory of up to \$2000 to present and facilitate interest in Nanotechnology at local schools.

The deadline for this year's second round of applications for the Young Nanoscience Ambassador Awards is 15 October. Further information about the Program can be found at: http://www.ausnano.net/content/young_ambass_awards

ARCNN Seminar CD's

The Seminars organised by the Network are available on CD free to members. The available talks are:

- **Prof G Ramanath** (June 2007) – “Sculpture and novel properties of nanostructures and their assemblies for applications”
- **Prof Selim Unlu** (June 2007) – “Applications of Optical Resonance to Biological Sensing and Imaging”
 - Short course: “Photodetectors: Fundamentals, Bandwidth and Noise Considerations”
 - Short course: “High-resolution optical microscopy: Solid Immersion Lens and Subsurface Imaging using Numerical Aperture Increasing Lens”

- **Prof E.G. Wang** (February 2007) – “Attempts in CNT Engineering: Nanocone, Nanobell, and Beyond”
- **Prof Jacob Israelachvili** (February 2007) – “Recent Progress in understanding the hydrophobic interaction and its role in complex and biological assemblies”
- **Prof Hiroaki Misawa** (Jan 2007) – “Micro-/Nano-Structures for Photonics”
- **Prof Pallab Bhattacharya** (December 2006) – “Spin-Based Semiconductor Heterostructure Devices”
- **Mr Mike Treder** (Sept 2006) – “Disruptive Abundance: Nanotechnology and Human Life”
- **Prof Henry Smith** (June 2006) – “Nanotechnology: where is it headed? How to get there?”
- **Prof Sir Michael Pepper** (June 2006) – “Interaction Effects in Electron Transport in One-Dimensional Quantum Wires”
- **Prof Heinrich Hofmann** (July 2006) – “Superparamagnetic particles for diagnostic and therapeutic purposes”
- **Dr Murali Sastry** (April 2006) – “Biology inspired nanomaterials”
- **Prof Richard Kaner** (February 2006) – “Processable Polyaniline Nanofibres For Flash Welding, Sensors and Actuators”
- **Prof Sajeev John** (November 2005) – “Photonic Band Gap Materials: Engineering the Fundamental Properties of Light”
- **Dr Vince Castranova** (July 2005) – “Health issues of Nanoparticles and Nanotubes”

Nanotechnology Facilities Database

ARCNN has added a Nanotechnology Research Facilities and Capabilities database onto our site. The aim of this database is to be a first access site to all the Nanotechnology Infrastructure facilities and capabilities available to nanotechnology researchers. All group leaders who are interested in adding their facilities onto the ARCNN site will be asked to add facilities/equipment/Infrastructure. NCRIS facilitators have been using the Network web page to get information about activities in various institutions in the country.

In each Newsletter we will be featuring a different facility.

Featured Nanotechnology Facilities

Plasma Processing Facility

Nanotechnology Capabilities:

- Plasma Etching System
- Plasma Deposition System with e-beam evaporation
- Sputter Deposition

Research Group:

[Australian National University, Research School of Physical Sciences and Engineering, PRL](#)

Contact Details:

[Rod Boswell](#)

02.61253442

Space Plasma and Plasma Processing group

PRL/RSPHYSSE

ANU

Canberra, ACT, 0200

Scanning Probe Microscopy Facility

Nanotechnology Capabilities:

- Atomic Force Microscope and Scanning Tunnelling Microscope
- Nanoscope III Atomic Force Microscope
- Scanned Probe Microscope (SPM) - 3D Molecular Force Probe

Research Group:

[Australian National University, Research School of Physical Sciences and Engineering,
Department of Applied Mathematics](#)

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Australia

Nanotechnology Strategy Funding announced by the Australian Govt.

The Australian Government is providing \$21.5 million over four years to establish the National Nanotechnology Strategy. Further information can be found at:

<http://www.industry.gov.au/assets/documents/itrinternet/NationalNanotechnologyStrategy20070504170811.pdf>

IEEE Nanotechnology Council 2008 Awards – Call for Nominations

IEEE Nanotechnology is calling for nominations for the following awards:

- (i) Nanotechnology Pioneer Award
- (ii) Early Career Nanotechnology Award
- (iii) NTC Distinguished Service Award

The Deadline for 2008 Awards is October 15, 2007. Further information can be found at <http://www.ausnano.net/index.php?page=newsitem&id=22>

Journal Special Issues-

Journal of Nanomaterials - call for papers for the special issues of the Journal of Nanomaterials.

They can be accessed through the following links:

Surface Nanoscience: <http://www.hindawi.com/GetPage.aspx?journal=JNM&PAGE=SNS>

Architecture of Crystallographic Oriented Nanocrystals:

<http://www.hindawi.com/GetPage.aspx?journal=JNM&page=ACONC>

Composite Hollow Spheres and Capsules

<http://www.hindawi.com/journals/jnm/si/chsc.html>

Modeling and Characterization of the Interaction of Electromagnetic Wave with Nanocomposites and Nanostructured Materials

<http://www.hindawi.com/GetPage.aspx?journal=JNM&page=NANOWAVE>

IEEE/OSA Journal of Lightwave Technology- call for papers for the special issue on Nano-optoelectronics. Paper submission deadline is 30 Sept 2007. Further info can be found at: <http://www.i-leos.org>

IEEE Journal of Selected Topics in Quantum Electronics – call for papers for the special issue on *Semiconductor Photonic Materials*. Paper submission deadline is December 1, 2007. More information can be found at: <http://www.i-leos.org>

Australian participation in European Cooperation in the field of Scientific and Technical Research (COST)

The Australian Academy of Science is inviting applications from Australian researchers to participate in European research networks known as COST Actions. (<<http://www.cost.esf.org/fileadmin/publications/07-02.pdf>>). COST is a system for research collaboration covering 34 European Member States in 9 scientific research areas (research domains).

Australian researchers traveling to Europe may receive a grant of up to \$5,000 per visit

(up to \$2,500 towards an airfare and up to \$2,500 towards daily living allowances), to participate in meetings and short term scientific missions. These meetings/missions must be for five days minimum and three months maximum duration. Applications are approved and funded in chronological order of receipt until funds have been committed.

Details can be found at: <http://www.science.org.au/internat/cost.htm>

Upcoming ARCNN Supported Events

The 12th International COMS Conference (COMS2007) will be held 2-6 September 2007 at the Sofitel Hotel, Melbourne Australia. COMS is the leading international conference on the commercialisation of micro and nano technologies. COMS addresses the issues of opportunity realisation - from research, technology transfer, manufacturing processes, facilities, infrastructure, investment, applications and markets, to unique issues such as regulatory, social implications, education and workforce development. COMS is a networking showcase of insight, knowledge, experience and inspiration. COMS2007 will bring together leaders from all over the world and every sector of the supply chain - from high tech companies, national labs, regional development and government agencies, investment and consulting groups, market researchers, educationalists and students - all sharing, learning and creating partnerships in an open interactive environment.

For your convenience, a full provisional technical program and conference information is available at the Conference website: www.mancef-coms2007.org.

The Nanostructures for Electronics Energy and Environment (Nano-E3) workshop and school to be held at South Stradbroke Island, Qld from the 3-7th September
<http://www.scientificambitalia.org/events06/nanows.html>

The 6th International Symposium on Metallic Multilayers is the next in a series begun in Kyoto (1993) and continued in Cambridge (1995), Vancouver (1998), Aachen (2001) and NIST-Boulder (2004), will be held at the University of Western Australia, Perth from 15-19th October 2007. More information on the symposium can be found at:
<http://www.mml07.uwa.edu.au>

The SPIE conference on Device and Process Technologies for Microelectronics, MEMS, Photonics and Nanotechnology will be held at the Australian National University, Canberra from 4-7th December 2007. For more details please go to:
<http://spie.org/micro-nano-mems.xml>

Further details of the above can be found at
<http://www.ausnano.net/index.php?page=events>

Other Overseas Nano events

EU 7th Framework Programme (FP7) Further information including brochures and presentations can be found at <http://www.ausnano.net/index.php?page=links>

Other Nano news

NanoSafe Australia is a nationwide research network of Australian toxicologists and risk assessors, who aim to address the issues concerning the occupational and environmental health and safety of nanomaterials. The network's missions are:

- To support government, industry and non-government organizations (NGOs) in their efforts to understand the health and safety issues surrounding nanotechnology products and their manufacturing processes.
- To provide quality data for the appropriate risk assessments of nanomaterials. Nanosafe Australia has recently produced a position paper on current OHS best practices for the Australian nanotechnology industry, and network members actively contribute to several government advisory committees on nanotechnology health and safety issues. If you are interested in further information on these issues, see their website at <http://www.rmit.edu.au/rd/nanosafe>

Nanowerk offers a unique and free nanomaterials database with over 1,400 nanomaterials, largest nanotech conference database, daily news coverage, exclusive Nanowerk Spotlight articles plus a vast range of other information and links. This site can be accessed through this link <http://www.nanowerk.com/>

ARCNN Admin Contacts

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Fax 02 6125 3915.

For further information regarding ARCNN or any events, please contact Liz or Ilonka, or go to www.ausnano.net