FLEET news

The Annual Report is out! See below for online link, and let us know what you think.

FLEET is very pleased to be bringing ICON2DMAT, the largest international 2D materials conference, to Australia for the first time this year. Thanks to Tich-Lam and Qiaoliang who spearheaded this bidding process. See below for more details about the conference.

Read on for all this, prizes and other opportunities, and research news from around the Centre.

Regards,

Michael Fuhrer
Director
ARC Centre of Excellence in Future Low-Energy Electronics Technologies

Annual Report

We're pleased to present hot-off-the-press FLEET 2017 Annual Report. You can find it online at FLEET.org.au/annual-reports

Feedback welcomed!

Hosting international 2D materials conference

FLEET is extremely proud to be bringing the International Conference on 2D Materials and Technologies to Australia for the first time, in December.

This 4th meeting reflects the rapidly growing field of 2D materials, covering graphene, transition metal dichalcogenides, black phosphorus, topological insulators, perovskites, MX3 and other new forms of 2D materials, as well as developing applications in electronics, photonics, optoelectronics, catalysis, bio-medical, environmental and energy.

Please help spread the word amongst your contacts. Full details are at FLEETorg.au/ICON2Dmat

Switching conduction mode: a step towards topological transistors

FLEET researchers at Monash University have achieved a significant landmark in the search for a functional topological transistor, using an applied electric field to switch the electronic conduction mode of a topological material.

A gate electrode was used to switch the conduction mode in the topological material Na3Bi, a topological Dirac semimetal (TDS) between n-type conduction (current carried by electrons) and p-type conduction (current carried by holes).

The work represented the first successful, simple, thin-film transistor made from a topological semimetal and the first transistor made from Na_3Bi.
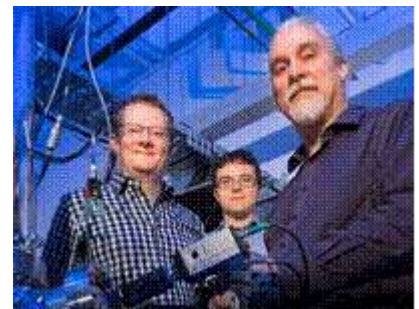
Building a resource of women in science

We need more women at the public face of science. One helpful resource is a database of female scientists accessible for media, conferences, policy makers etc: You can sign up at 500womenscientists.org/request-a-scientist

In Victoria you'll find a similar resource at Here she is. Are there others? If so, let us know.

Micro-branding at UNSW/Monash

FLEET researchers taking an innovative approach to their science have created a couple of unique and interesting branding displays for the Centre.

FLEET PhD student Fan Ji developed this micro-sized logo (right) at UNSW. The FLEET logo is etched onto the two-dimensional interface between two materials, in letters only a few thousandths of a millimetre high, using bias-assisted atomic force microscopy (AFM) lithography.

At Monash University, FLEET affiliate Marina Castelli used the tip of a scanning tunnelling microscope (STM) to manipulate individual iron atoms on a silver surface, creating this nano-scale logo (left) comprising just 42 atoms.

News from around the Centre

Congratulations to FLEET UNSW postdoc Harley Scammell who has been awarded a Fulbright Scholarship to work with world-renowned theoretical physicist Subir Sachdev at Harvard University on the mechanisms behind superconductivity.

New glossary developed: a list of terms from our fields have been developed as part of the Annual Report process. These definitions can be used by researchers seeking accessible language for a non-physicist audience: a set of agreed, 'vetted' terminology that's accessible, accurate (but not exhaustive) and available to anyone wanting to describe their science to non-physicists. Feedback welcome!

More news:

- Electronically smooth material measured at Monash
- First Women in FLEET scholarship recipient
- 10-year-old spin mystery resolved at UNSW
- Older news

Prizes and opportunities

Australian Nanotechnology Network (ANN) funding for members to travel to Australian National Fabrication Facility nodes. Open for postgraduate nanotech students and ECRs currently studying/working in Australia who are members of ANN
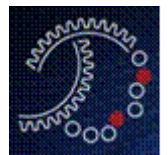
Fresh Science opens 28 March. Learn to tell the story of your science, with a day of science communication training and public events.

The Melbourne Centre of Nanofabrication and ANFF Victoria are seeking Masters or PhD interns to be partnered with industry clients to work on 2-6 month internship projects.

It's prize-nomination season!

Consider who you could nominate, or who you could encourage to nominate themselves.
Get in touch with the Operations team if you have any questions or suggestions about the process.

- PMs Prize for Science (deadline 26 March!)
- Tall Poppies (9 April)

- Australian Academy of Science honorific awards (1 May) ECR, MCR and career
- Eureka Prizes, eg Use of technology, ECR, Scientific research (fundamental), Emerging leader, Leadership, Mentor, Interdisciplinary (closes 4 May).

Most people who nominate for a prize say they did it after encouragement from peers and supervisors. Consider whether your own work could be nominated too!

Helping spread FLEET news

If you're on Facebook, Twitter or Linkedin, we would love it if you followed our accounts and shared our posts, particularly with other colleagues in the field. If a friend or colleague might be interested in our news, click here to send them an invite. Or let us know and we'll invite them.

If you have been forwarded this email, you can subscribe to future editions by clicking here.

Participating organisations

FLEET's participating nodes are: the Australian National University, Monash University, RMIT University, Swinburne University of Technology, the University of New South Wales, the University of Queensland and the University of Wollongong.

FLEET is: The Australian Research Council Centre of Excellence in Future Low-Energy Electronics Technologies.