

FLEET News

FLEET's official launch this month was a great success, with around 150 researchers, policymakers and even school students involved. Check out the report, including images and videos, below.

We move on now to the two next big Centre events for the year: the annual workshop in December and the ICON-2DMAT materials conference the following week (abstract submission link below).



We also have a report on quantum research with a pop-culture link, and plenty of other research results from around the Centre.

Finally, congratulations to Agustin Schiffrin and partner Claire on the birth of Elias Tomas last weekend.

Regards,

Michael Fuhrer

Director

ARC Centre of Excellence in Future Low-Energy Electronics Technologies

Catch up on previous editions of FLEET News

In this edition:

- *Launching future electronics*
- *Present at ICON-2Dmat materials conference*
- *Research: FLEET/EQUS collaboration develops 'flux capacitor'*
- *Fresh minds developing hands-on learning methods for schools*
- *Research: Trapping excitons at ANU*
- *News from around the Centre*
- *Prizes and opportunities*
- *Resources for women in science*

Launching future electronics

A crowd of around 150 enjoyed FLEET's official opening at Monash University this month, in an event that showcased the Centre's school science outreach, and included talks on 'the big challenge' (ICT energy use), FLEET science, and making an impact beyond the science.

Read talks by FLEET members online.



Present at international 2D materials conference

Submit your abstract by 3 August to present your work at ICON-2DMat. See the list of confirmed speakers and the program overview.

The conference will cover 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.



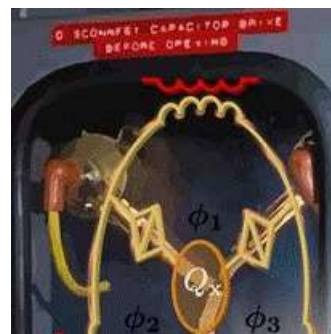
- FLEET.org.au/ICON2Dmat
- Melbourne, Victoria
- 10-13 December 2018

Spread the word: 'Sharing' our [Linkedin post](#) will help reach our perfect target audience

'Flux capacitor' breaks time-reversal symmetry, and the internet

FLEET/EQUS collaboration develops 'flux capacitor' Jared Cole (RMIT) and UQ/Swiss colleagues proposed a device that uses the quantum tunneling of magnetic flux around a capacitor, breaking time-reversal symmetry, which would be important in ultra-low energy electronics where the 'arrow of time' would not necessarily behave as desired.

The study gained instant share potential from its connection to Doc Brown's famous device, exposing significant readers to a helpful dose of quantum physics. [Read more.](#)



Fresh minds bring FLEET science to the classroom

Developing hands-on learning methods for schools A collaboration with Monash University Science allowed FLEET to enlist fresh brains to the challenge of engaging school students with FLEET science, resulting in hands-on games and resources to demonstrate FLEET-relevant science themes in the classroom. [Read more.](#)

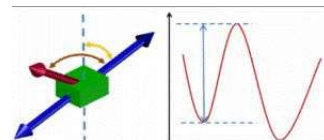


Trapping excitons at ANU

FLEET collaboration traps exciton polaritons High-quality microcavities enabling a strong light-matter coupling regime achieved room-temperature exciton-polariton condensation with trapped photons living an order of magnitude longer than previously achieved in an ANU/Monash collaboration that significantly advanced FLEET's Research theme 2. [Read more.](#)

News from around the Centre

Electronic and magnetic properties of candidate van der Waals (vdW) material improved at reduced thickness, confirmed in an RMIT study that was featured in Nature's April condensed matter highlights.>>>



<<<Science Minister Simon Birmingham and ARC CEO Sue Thomas visited FLEET labs at the University of Wollongong's Innovation Campus for an introduction to atomically-thin materials.

Tin-oxide growth characterised for (even) better 2D materials deposition at RMIT, improving on last year's ground-breaking development of liquid-metal 2D material deposition.>>>



<<<Twenty generous FLEET volunteers explained the Centre's research mission and a selection of home-science demonstrations at a showcasing of Melbourne innovators and innovation, Melbourne Knowledge Week.

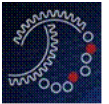
New quantum-gas microscope facility at Swinburne will bridge microscopic and macroscopic behaviour.>>>



- Interactions within quantum batteries key to their charge advantage
- Melbourne MP/Greens Science spokesperson visits FLEET RMIT
- FLEET-nano collaboration recognised
- Switching conduction mode: a step towards topological transistors
- 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



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.

The \$50,000 Victoria Prize for Science and Innovation recognises leadership, determination and creativity, highlights internationally significant research in Victoria. Victorian scientists who have made, or have the potential to make, a significant scientific discovery or technological innovation should nominate by 25 July.



Victoria Fellowships recognise the role of innovation to Victoria's economic future and the need for Victorians to be scientifically skilled. The \$18,000 travel grant allows a short-term overseas study mission to progress a commercial idea; undertake specialist training; or allow for career development not available in Australia.



UNSW Scientia Postdoctoral Fellowships run for 4 year and can be used to support FLEET related CIs. Women in science are particularly encouraged to apply.

The Australian Institute of Physics Bragg Gold Medal recognises the best physics PhD thesis by a student from an Australian University. **The AIP TH Laby medal** recognises the best Honours or Masters thesis from an Australian University. Deadline for both awards is 1 July.



Applications are open for the **AIP Women in physics lecturer** until 1 August, seeking a woman working in Australia who has made a significant contribution in physics research to speak in each state and the ACT in 2019.

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!

Building resources for women in science

We need more women at the public face of science. **500 Women Scientists** is a database of female scientists accessible for media, conferences, policy makers etc. In Victoria you'll find a similar resource at [Here she is](#). Let us know any others.

Help spread the 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.

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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.