

FLEET News: outreach edition (June 2019)



Welcome to a special outreach edition of FLEET News.

FLEET invests significant resources into science-outreach, aimed to inspire stronger engagement with science across all levels of the community, from primary and secondary school students to the broader population.

In addition, science outreach also builds valuable skills for our FLEET members...

Explaining your research to students and the public helps develop the skills to effectively communicate what's exciting and worthwhile about our work. Regular practice means you can perfect your 'pitch' for those opportunities to chat with the Vice Chancellor, DVC-R (or Elon Musk)...

This edition of FLEET News focuses on current and future outreach events and opportunities, as well as other news from around the Centre.

Regards

Regards,

Chris Vale

Chair, FLEET Outreach Committee

Catch up on previous editions of FLEET News

An ambitious target: 20 outreach hours a year

FLEET members are required to do at least 20 hours of outreach per year. Outreach is anything where we take science to the public. Eg, public talks or events, or creation of resources designed for education. The Centre provides lots of different possibilities, most of them listed below.

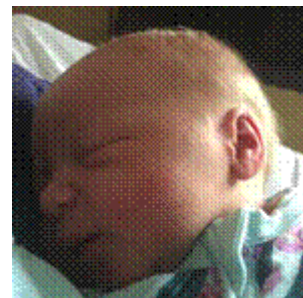


In this edition:

<p>Congratulations Nicci and family</p> <p>Outreach: School visits</p> <p>Research article: Just add iron (UOW)</p> <p>Outreach: National event volunteering</p> <p>Engaging with policymakers</p> <p>Outreach: Homescience</p> <p>Introducing new AI Julie Karel (Monash)</p> <p>Outreach: Open days</p>	<p>FLEET workshops in August</p> <p>ECR Forum at RMIT in July</p> <p>Equity resource</p> <p>Partnering with COEs to develop comms skills</p> <p>Exciton conference, Melbourne 2020</p> <p>Melbourne Knowledge Week volunteers</p> <p>Previous news</p> <p>Events coming up</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Congratulations Nicci and family

A warm FLEET welcome to baby Evie, joining the family of FLEET RMIT Administrator Nicci Coad earlier this month.



Outreach: School visits

Last year FLEET members visited or hosted 22 schools, engaging students with relevant issues such as information and technology (ICT) energy use, how transistors work and the new fields of science studied at FLEET.



Members who have already visited one school are encouraged to invite a colleague who hasn't done a school visit before to come along on your next one to demonstrate how much fun (and un-scary) school visits can be.

Members are encouraged to join [CSIRO's STEM Professionals in Schools](#), which matches scientists, engineers and other STEM professionals with schools.

Research story: Tuning topological insulators, just add iron

Iron-doping of the topological insulator Sb_2Te_3 results in useful electronic and magnetic properties, quantified in a recent FLEET study at the University of Wollongong.

[Read more online.](#)



Outreach: National science events

Volunteering at national science events provides valuable insight into science outreach. For example, volunteers are currently sought for:

- [National Science Week 10-18 August](#)
- [Science in the City Expo 10 August in Sydney](#)
- [Sydney Science Fest 6-18 August](#) FLEET will have a booth as part of Sydney Science Fest at the Australian Museum and is seeking volunteers 6–15 August.



"Melbourne Knowledge Week was a highlight for me in 2018, as was helping a primary school science teacher at Surrey Hills Primary School and volunteering for a Scienceworks excursion for Primary School students and kindergarten students."

—Dr Shilpa Sanwani, FLEET Research Fellow, Swinburne

Material states: Engaging with policymakers

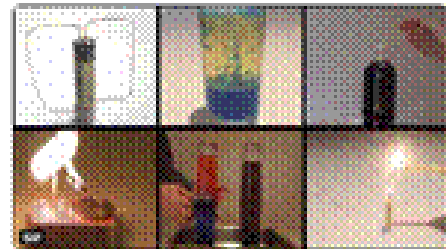
Victorian State MP Steve Dimopolous visited FLEET's Monash University labs this month, touring 2D and STM facilities with Michael Fuhrer and Semonti Bhattacharyya, and Monash Dean of Engineering Elizabeth Croft, and seeing FLEET's superconducting Mobius track in action with Dianne Ruka. [Watch online.](#)



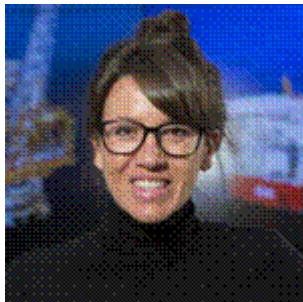
Meanwhile FLEET's Deputy Director Alex Hamilton and Daisy Wang met with advisors in the office of **NSW Minister for Energy and the Environment, Matt Kean.**

Outreach: Home-science experiments

FLEET's Home Science experiments provide science opportunities for young children and adults alike, making science easy, accessible and relevant. FLEET members are encouraged to help create new science activities for the public.



Using disorder to build new materials: welcome new AI Julie Karel



Welcome to new FLEET AI Dr Julie Karel (Monash University). Dr Julie Karel conducts research at the intersection of materials science and condensed matter physics to develop new materials for emerging low-energy nano-electronic and magneto-electronic devices.

[Read more about Julie's work online.](#)

Outreach: Open days

University Open Days (at FLEET nodes, these run between July and September this year) are a great opportunity to meet prospective science and engineering undergrads.

"Engaging with public and students has been a personal highlight in 2018. At Monash University Open Day I got to explain FLEET's focus and relevance to the general public, and describe my job as a researcher to many potential future physics students."

—Dr Changxi Zheng, FLEET Research Fellow, Monash University



FLEET workshops: UNSW August 2019

FLEET's half-year strategic meeting (UNSW, 15-16 August) will discuss research milestones, review the Centre strategic plan and prepare for the ARC's mid-term review.

At the same time, PhDs and research fellows will also be meeting to share their own research stories, with an aim to improve understanding across the Centre, as well as developing skills in presenting to peers for ECRs.



ECR forum: Got PhD, What's Next?

A forum will bring together young STEM researchers to network, develop research capabilities and practice professional skills.

Panelists include RMIT Associate Dean for Higher Degrees Madhu Bhaskaran, 2D materials researcher Torben Daeneke, bioscience researcher and lab-founder Tien Huynh, CSIRO Futures engagement head Vicky Au, project leader Christian Potzner and patent attorney Emma van Embden.

Registration is free but spaces are limited - register now online.



New equity network

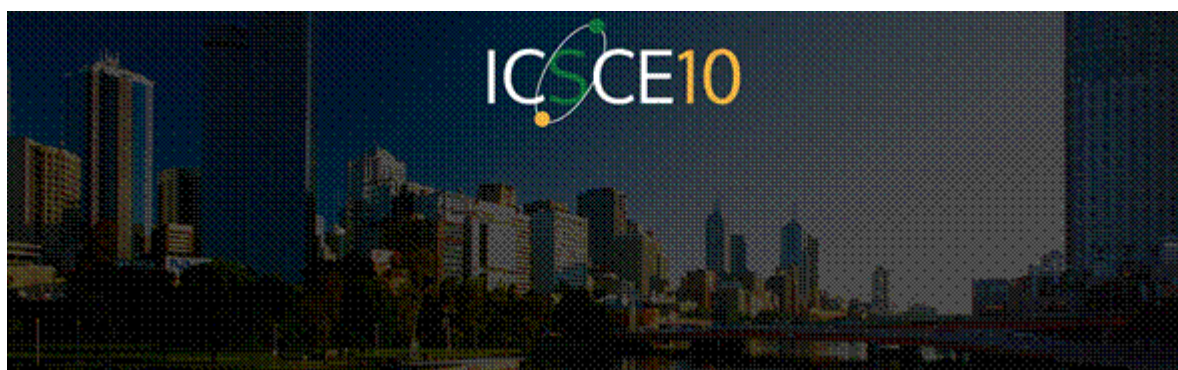
The Women In Research network contains valuable resources to inform and inspire women in research. Women are encouraged to connect and contribute to the this network, to help create a more equitable and diverse STEM community.



Registration and abstracts: Exciton conference, Melbourne 2020

[meet the speakers](#) | [submit your abstract](#) | [register!](#)

Abstracts are now being accepted for the 10th International Conference on Spontaneous Coherence in Excitonic Systems (ICSCE10) in Melbourne 28-31 Jan 2020 (Arts Centre Melbourne).



COEs partner up for pitch training and physics on-stage

A pitch training session for 16 researchers from three ARC Centres in Melbourne this month introduced key communications concepts such as choosing the most effective lead, tailoring the pitch to the audience, presenting tips, and working with media. FLEET partnered with the ARC Centre for Exciton Science and the ARC Centre for Mathematical and Statistical Frontiers (ACEMS) to source this key training.

FLEET's Jared Cole (shown, RMIT) and Carlos Kuhn (Swinburne) stretched their public outreach muscles this month, experimenting with pub physics demonstrations on the quantum nature of time and string theory magic tricks, respectively. The event was co-sponsored by four ARC COEs and the AIP.

The annual Idea Factory collaboration between FLEET and the ARC Centre for Engineered Quantum Systems (EQUS) combined pitch training with other key entrepreneur skills development, part of CSIRO's "ON" program.



Previous news

Congratulations to FLEET AI Jo Etheridge (right, Monash Centre for Electron Microscopy) who has been named a Fellow of the Australian Academy of Science in recognition of new microscopy techniques developed to measure the structure of materials at the atomic scale. [Read more about Jo's research online.](#)



Welcome to Prof Laurent Bellaïche (left, University of Arkansas, US) whose ongoing ferro-electrics research collaborations with FLEET are recognised by him becoming a Centre Scientific Associate Investigator. [Read more online](#)

A new Swinburne study resolves a long-standing debate about what happens at the microscopic level when matter transitions into a superconducting or superfluid state. Correlations between pairs of atoms in an ultra-cold gas were found to grow suddenly as the system was cooled below the transition temperature. [Read more online](#)

Over a dozen FLEET researchers flew the flag for FLEET at the recent Melbourne Knowledge Week showcase. Reps introduced the public to ICT energy use, electromagnetism, superconductivity (via FLEET's super-cooled Mobius track), and the mechanics of binary operations underlying modern computing. [Read more online.](#)

Events coming up

- [YourForum Got PhD What's Next](#) 8 July RMIT
- Xmas in July 25 July, Monash
- Swinburne Open Day 28 July
- UOW Open Day 3 August
- UQ Open Day 4 August
- Monash Open Day 4 August
- [Sydney Science Fest](#) 6-18 August
- [National Science Week](#) 10-18 August
- FLEET CIs strategic workshop & PhDs workshop 15-16 August 2019, UNSW
- RMIT Open Day 11 August

- ANU Open Day 31 August
- UNSW Open Day 7 September

SAVE THE DATE

Gordon Godfrey Workshop 25-29 November, UNSW

Participating organisations

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

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.

