

FLEET News: March 2023

Congratulations to Yuerui (Larry) Lu on receiving the Australian Academy of Science's Pawsey Medal for his work on 2D materials. Read more about Larry's achievements as well as interesting profiles and interviews with several other FLEET researchers below.

Michael Fuhrer
Director, FLEET



In this edition of FLEET News:

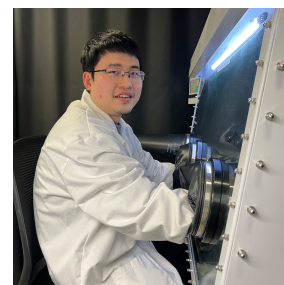
- **Superconductivity of a starlike kagome metal** (RMIT, Monash)
- **Jianbo Tang nanoscience star** (UNSW)
- **Michelle Spencer profiled** (RMIT)
- **Yuerui Lu receives Pawsey Medal** (ANU)
- **Women in Leadership funding** (ANU, RMIT, Monash)
- **Liquid-metal sustainability** (RMIT)
- **Angela White awarded fellowship** (UQ)
- **FLEET ECR authors this month**
- **Lab tours for students and consulate advisors** (Monash)
- **Conferences, past talks and opportunities**

Destroying superconductivity of a starlike kagome metal

Centre Research Fellow Cheng Tan (RMIT) led a recent study in Nature Communications documenting the first discovery of distinct, disorder-driven superconductor-insulator transition in a 'kagome' (starlike structured) candidate material for low-energy beyond-CMOS electronics. [Read the article \(written by Cheng\) online.](#)

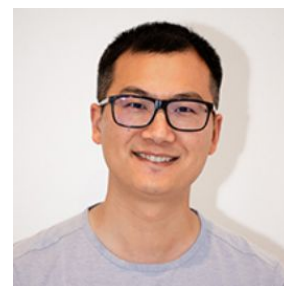


See coverage from Cheng's writeup at [Phys.org](#) / [Science Daily](#) / [Nanotechnology Now](#) / [Nanowerk](#) / [Chinese Academy of Sciences](#)



Jianbo Tang: nanoscience emerging investigator

Congratulations to FLEET's Jianbo Tang (UNSW) for being chosen as a 2023 Nanoscale Emerging Investigator. [Read Jianbo's article](#) on the formation of inorganic liquid gallium particle–manganese oxide composites in Nanoscale's themed collection, gathering together the very best work from rising stars of nanoscience and nanotechnology research.



Michelle Spencer in high performance computing

International Conference for High Performance Computing profiles FLEET AI Michelle Spencer (RMIT), whose work in computational materials chemistry aims towards materials to make digital technological more sustainable. [Read online.](#)

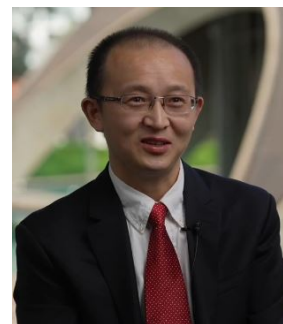
"Women are severely underrepresented in the field of HPC but their contributions are making significant advancements and having impact across STEM and other disciplines. It is an exciting field to be working in and I am looking forward to discussing how my group's work in computational chemistry is providing "



Yuerui Lu receives Pawsey Medal

For outstanding research and contributions to applied physics in nanotechnology, AI Yuerui (Larry) Lu at the Australian National University has been awarded the Australian Academy of Science 2023 Pawsey Medal.

[Watch online.](#)

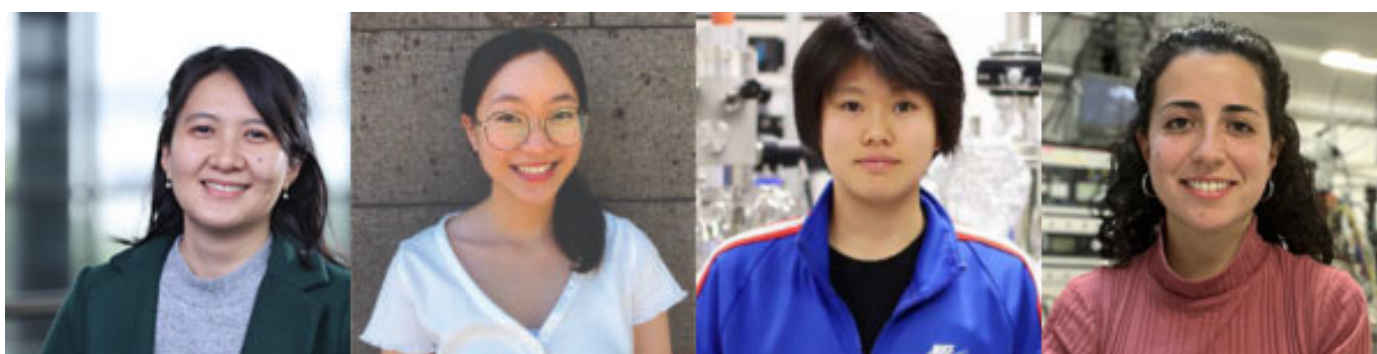


Women in Leadership Funding

Four FLEET researchers have received partial Centre funding to attend Women & Leadership Australia Impact program. Congratulations to:

- PhD student Bianca Rae Fabricante (ANU)
- PhD student Patjaree Aukarasereenont (RMIT)
- Diversity in FLEET fellow Dr Mengting Zhao (Monash)
- Research Fellow Dr Amelia Dominguez (Monash)

[Read more about these four future leaders and the program online.](#)



Liquid-metal sustainability

Torben Daeneke (FLEET AI at RMIT) talked this month about liquid-metal approaches to tackling climate change with journalist Patrick Abboud for the '100 Climate Conversations' series at the Powerhouse Museum in Sydney. [Listen/watch/read online.](#)



Angela awarded fellowship at EQUUS

Centre alum Angela White (UQ) has been awarded the **Deborah Jin Fellowship** at EQUUS, to continue her research into quantum sensors and superfluids, working with EQUUS/FLEET CI Matt Davis.

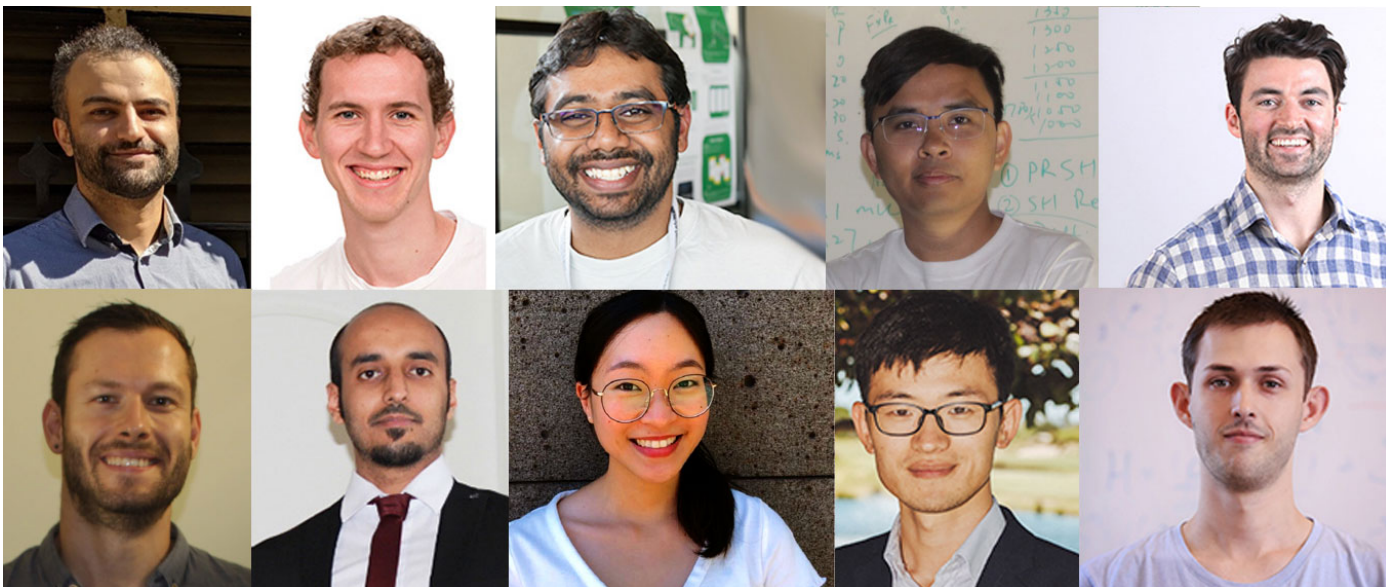


Australian Academy of Science awards

Nominations are open for two awards aimed at Australian women: **Ruby Payne-Scott Medal and Lecture** (career medal) and **Nancy Millis Medal** (MCRs). See the nomination and eligibility guidelines at the AAS, and consider who you could nominate, and/or encourage to be nominated. **Deadline 1 May 2023.**

FLEET ECRs publishing in March

Congratulations to our early-career researchers who were first, second or third authors on papers published this month: Ali Zavabeti, Benjamin Lowe, Dhaneesh Gopalakrishnan, Eli Estrecho, Harley Scammell, Matthias Wurdack, Meri Algarni, Patjaree Aukarasereenont, Weiyao Zhao and Zeb Krix. See more in [FLEET publications](#).



Lab tours for students and consulate advisors

FLEET's labs at Monash New Horizons recently hosted tours for secondary students on the Brainstem mentoring program (thanks to tour-guide Julian Ceddia), as well as a visiting British consulate science advisor (thanks to Gary Bean, Mitko Oldfield, Amelia Dominguez and Kris Helmersen).



Catch up on past talks

FLEET seminars and talks are available to catch up on YouTube:

- Yuerui Larry Lu (ANU) [Enhanced interactions of interlayer excitons in free-standing hetero-bilayers](#)
- Peggy Zhang (UNSW) [Stability of ferroelectric bubble domains](#)
- Jennifer Cano (Stony Brook) [Engineering topological phases with a superlattice potential](#)
- Semonti Bhattacharyya (Leiden) [Dirac fermions at interfaces](#)

Grants and opportunities

Main Sequence Ventures (CSIRO's investment arm) deep-tech newsletter features over 40 companies with 300+ jobs on offer. [Sign up for the newsletter](#) to stay informed.

[Nano Letters](#) and [ACS's new Seed Grants competition](#) will provide US\$2500 for high-risk, high-reward nano' research proposal ideas from later-stage graduate students (third year+).

For ongoing outreach/development opportunities see [In2science](#) mentoring, and [CSIRO STEM Professionals in Schools](#).

Interested in an [industry internship](#)? See active positions at [APR Interns](#).

Previous news

Patjaree best presentation Congratulations to FLEET's Patjaree Aukarasereenont (RMIT), receiving best presentation award at the International Conference on Advanced Materials and Nanotechnology AMN10 in New Zealand for her talk on tellurium oxide printing from liquid metal.



Collaborative schools outreach in NZ FLEET and MacDiarmid members teamed up at the recent AMN10 conference in Rotorua NZ to conduct science outreach workshops for 320 local school students. Over four days, 25 volunteers from FLEET and partner organisation the MacDiarmid Institute visited seven schools and presented a variety of hands-on science workshops to students ranging from year 4 to 9, in a program coordinated with Tūhura Otago Museum. [Read more online.](#)

Ali Zavabeti nanoscience superstar Congratulations to FLEET alumni Ali Zavabeti (ex RMIT, now at the University of Melbourne), named a 2023 "Rising Star of Nanoscience and Nanotechnology Research" by the journal Nanoscale. The journal collection gathers the best from researchers in the early stages of their independent career, and shines a spotlight on Ali (with student Xiangyang Guo) work on gas sensors based on liquid indium skin. See the collection online.

[See the collection online.](#)

Strong FLEET representation at Quantum Australia A 14-strong FLEET crew (including two alums) contingent was at Quantum Australia in February, with representatives from the FLEET Ops Team, Swinburne, UNSW, Monash, RMIT and NTU. [Read FLEET PhD candidate Matt Gebert's report from the conference.](#)



Participating organisations

FLEET is The Australian Research Council Centre of Excellence in Future Low-Energy Electronics Technologies. Read more about our [participating nodes](#) and [partners](#) online.

