

# OUTREACH PLAN

FLEET is committed to science outreach to further public awareness of science and its growing role in society, and to contribute to building a STEM-proficient workforce, achieved by increasing the number of students (particularly members from marginalised groups) undertaking STEM at senior secondary and tertiary levels. FLEET will connect with school students, teachers and the public, seeking out opportunities to inspire a passion for science and awareness of FLEET research to students and the wider community.

**Audience:** FLEET outreach is aimed at school students, teachers and the broader public. This may also include more specialised groups such as industry, government, NGOs, etc.

**FLEET Members:** FLEET members are required to complete a minimum of 20 hours per year. This will take a number of forms, including presenting to the public, organising events, designing and developing educational resources, etc. FLEET members will be supported in this and will be provided with training in ways to deliver outreach. FLEET prizes for outstanding efforts in outreach will be awarded as an incentive to members.

The following strategic goals have been developed for FLEET outreach activities:

## **5.1 Contribute to the scientific literacy and understanding of FLEET science amongst primary and secondary students, and teachers.**

FLEET will achieve the following goals:

- Aid primary and secondary school teachers to teach physics by developing a set of curriculum-linked teacher resources linked to FLEET research.
- Via the Future Electronics unit delivered at John Monash Science School (JMSS), affect how students value physics and the physical sciences and their participation in STEM subjects in senior high school and through to university
- Reach students from regional and/or disadvantaged schools and have an impact on students' scientific literacy and critical thinking about FLEET research.

### **Targets:**

- Develop at least three resources that includes demonstrations, teaching aids, teacher professional development workshops, classroom lessons and hands-on activities for Australian schools. Ensure such resources are also targeted at engaging marginalised students in STEM
- Develop and conduct at least three physics- and chemistry-based workshops for primary and secondary students

- Deliver 20 online and in-person workshops in 2023 for primary and secondary students with a focus on the years 3-9
- Further develop the pilot Year 10 science elective unit at JMSS and implement it, in whole or in part, at a minimum of one other school by 2023
- Target indigenous, regional and/or disadvantaged schools. Pilot an adapted version of the JMSS unit in at least one indigenous or disadvantaged school
- Develop relationships with schools through STEM Professionals in Schools to enable FLEET staff to gain experience in communication and engagement. Enlist at least 15 FLEET participants in the STEM Professionals in schools program
- Develop relationships with at least one Specialist Science Centre such as Quantum Victoria and Monash Tech School to collaborate on the development and delivery of physics-based units for primary and secondary students.

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## Measuring Impact:

1. Conduct pre- and post-evaluation of each FLEET interaction through workshops and the JMSS Future Electronics unit to assess the effect of FLEET interactions on literacy, perception and understanding of science, its process and value, especially in physics
2. Continue to conduct the longitudinal studies with JMSS to understand the effect of the unit on literacy and participation in STEM.

## 5.2 To raise awareness of FLEET research among the general public

Awareness of FLEET research has the following measurable objectives:

- An appreciation/understanding of the purpose and value of FLEET research and physics generally
- An awareness and understanding of the scientific process (or method of enquiry)
- Ability to think critically about the implications of FLEET's research and science on society and where meaning is constructed through dialogue with FLEET researchers and staff.

## Targets:

FLEET will conduct the following engagement activities to meet and measure these objectives:

- Continue to use and develop interactive activities to engage the public in FLEET science at public events such as Melbourne Knowledge Week, National Science Quiz and Science in the City. FLEET will participate in at least two public events in 2023.
- Conduct in-person and online public tours of FLEET labs during events such as Open Days and similar opportunities for incursion. FLEET will conduct at least seven public tours in 2023
- Develop online and in-person talks targeted at interested community groups such as Rotary Clubs. FLEET will participate in four presentations to the community in 2023
- Support/train FLEET researchers in communication and public engagement skills to broaden their transferable skills and enable more effective engagement with FLEET audiences. FLEET will conduct at least two training events for FLEET members to help improve their communication skills
- Create greater depth to the content of the online activities to broaden the audience reach and also target specific audiences such as teachers and students. Promote the activities and associated content through student and

teacher networks.

## Measuring Impact:

1. FLEET will develop methods to evaluate each public outreach activity to measure awareness of FLEET research. These can be integrated into the interactive activities or operate as distinct entities, e.g. short surveys
2. FLEET will monitor the metrics to the relevant web pages and social media used as platforms to reach wider audiences and engage them in FLEET research and with researchers. Such metrics should indicate an increase in visits to the new pages and posts, and where there are opportunities for engagement, FLEET will evaluate such engagement to assess awareness, critical thinking and dialogue around value and appreciation of FLEET research.