

PROGRAM QUANTUM TECHNOLOGIES FOR AXION DARK MATTER DETECTION INCUBATOR

DAY 1 - WOMEN'S COLLEGE, USYD

9.00am - Welcome and introduction, Ben McAllister

9.30am - Introduction to Dark Matter, Axions, Axion Electromagnetism, Michael Tobar

10.15am - Coffee and group discussion on ideas for detection

11.00am: Introduction to Axion Haloscopes, ADMX, and Quantum Technology for Haloscopes, Gray Rybka

11.45am: Lunch and group discussion on quantum technology for haloscopes

1.00pm: The ORGAN Experiment, progress to date, future plans, quantum technologies, opportunities for EQUUS involvement, Ben McAllister

1.45pm: Magnon Experiment, progress to date, future plans, quantum technologies - JPAs, Graeme Flower

2.30pm: Coffee and group discussion on ideas for ORGAN

3.15pm: Enhanced effects of dark matter, Victor Flambaum

4.00pm: Group discussion and close for the day

DAY 2 - WOMEN'S COLLEGE, USYD

9.00am: Introduction to second day

9.30am: Axion detection with frequency metrology and exceptional points, Maxim Goryachev

10.15am: Coffee and group discussion on implementations of FM and EP detection

11.00am: WIMP dark matter, detection techniques, and quantum technology, Elisabetta Barberio

11.45am: Lunch and group discussion on new ideas for axion detection

1.00pm: 30 minute misc. talks and group discussion with:

- Catriona Thomson
- Hoang Bao
- Igor Samsonov

If you are interested in presenting a short talk or you have something relevant to contribute as a result of the workshop, please contact Ben at ben.mcallister@uwa.edu.au or in person at the workshop

4.00pm: Group discussion and workshop close-out

Thursday, September 20 - Friday, September 21

equus.org/axion