

Pawsey experts are hitting the road again.

Brisbane, Sydney and Adelaide tour.

After the success of this year's Roadshow in Hobart and last year's Roadshow in Melbourne, Pawsey experts will hit the road again to reach out to researchers in Brisbane, Sydney and Adelaide to advise on Pawsey services.

From March 20th to 24th 2017, the Pawsey Supercomputing Centre staff will be touring Australia with the "Pawsey Roadshow" to assist researchers in taking their projects to the next level, through introductory training sessions and information sharing opportunities. The tour will start in Brisbane on the 20th and 21st March, continuing in Sydney on the 22nd to 23rd March and finishing in Adelaide on the 24th March.

Each city event will comprise of presentations from Pawsey researchers and staff who will provide information and offer their experience relating to Pawsey services and accessibility. The sessions will be followed by various training courses and clinics. The clinics are opportunities for researchers to get one-on-one advice from a Pawsey expert to help with any coding or data issues. Additionally, researchers can learn how to best gain access to supercomputing, data or visualisation systems and how research can benefit from Pawsey services.

Pawsey together with Swinburne and Curtin University, funded by Astronomy Australia Limited, are providing training to astronomers across Australia. As part of Astronomy Data and Computing Services (ADACS) a one-day face-to-face interactive workshop on introductory computing for astronomers, will be held during the Roadshows in Brisbane and Sydney.

As part of these Roadshow events, Pawsey will host a sundowner where researchers will have the opportunity to help Pawsey shape the future of the Pawsey Supercomputing Centre.

If you are a researcher who:

- is interested in high performance computing,
- has large scale data issues,
- is working in astronomy and who needs specialist training,
- wants to see if your work can be taken to the next level by using powerful computing and data resources, or
- would like to influence the future of the Pawsey Supercomputing Centre,

please RSVP and come along and meet with our staff.

Come and Join Us!

The Pawsey Roadshow is an event showcasing services and resources that Pawsey Supercomputing Centre provides to researchers across Australia.

This free event will have staff from Pawsey representing the organisation and answering questions from researchers who would like to take advantage of HPC and data services.

Be aware that you are required to book each event separately.

Details of the event are as follows:

BRISBANE 20-21 March

Venue: University of Queensland

St Leo's College's boardroom. College Road St Lucia, Queensland, 4067, Australia. (Max cap25)

To attend please [RSVP here](#) by March 16th

Morning Session March 20th – Roadshow

10.30am Welcome by Dr Marlies Hankel, eResearch Analyst, Research Computing Centre and Queensland Cyber Infrastructure Foundation

10.40am Presentation from Pawsey researchers

Scramjet-based Access-to-Space, Dr Vincent Wheatley, The University of Queensland

Reliable, reusable access-to-space systems have the potential to revolutionise the utilization and exploration of space. A scramjet-powered, air-breathing second stage would have the mass budget for the thermal protection and flight systems required for reusability and rapid relaunch. This second stage would complement the reusable first stages currently being tested internationally. We are addressing the remaining challenges to making these systems a reality through a combination of state-of-the-art numerical simulations, informed and validated by separately funded experimental research.

Supercomputing and Clean Energy, Debra Bernhardt, The University of Queensland

The Bernhardt group has been using the Pawsey Supercomputing Centre since the beginning of 2016. Access to Pawsey has enabled them to carry out molecular level computational studies, with an aim to provide insight into materials and chemicals for clean energy applications. This project has focused on three technologies: electrode materials for rechargeable batteries, hydrogen storage on two-dimensional materials and the promotion and inhibition of gas clathrate formation.

11.20am Pawsey Supercomputing Staff. Supercomputing, Data and Visualisation services

11.45am Q&A and networking session

Afternoon Session March 20th – Introductory training and networking

1.00 pm – 4.00 pm Introduction to Supercomputing training session.

After completing the training session, the attendee will be able to:

1. Understand basic parallel computing concepts and workflows
2. Understand the high-level architecture of a supercomputer
3. Use a basic workflow to submit a job and monitor it
4. Understand a resource request and know what to expect
5. Check basic usage and accounting information

4.00pm Sundowner – Have your say - what could Pawsey look like by 2020. At the sundowner, Pawsey staff will be available to listen to your views and opinions on what the Pawsey Supercomputing Centre could look like, if funding was available to refresh infrastructure.

March 21st – ADACS Astronomy Training 9.00 am – 5.00pm

9.00 am – 11.00 am Introduction to version control with git and github

11.00 am – 1.00 pm Introduction to data analysis using python-pandas

2.00 pm – 3.00 pm Introduction to Supercomputing at Pawsey including using GPU resources

March 21st – Pawsey Clinic 1.00 pm – 3.00pm

Clinic Venue: 67-343 Building 67 - Priestley Building, Room 343, University of Queensland.

SYDNEY 22-23 March

Venue: University of New South Wales, Kensington

Hugh Dixon Theatre, AGSM Building, Gate 11, Kensington, NSW 2052 (max cap 36)

To attend please [RSVP here](#) by March 16th

Morning Session March 22nd - Roadshow

10.30am Welcome by Luc Betbeder-Matibet, Director Research Technology Services at UNSW

10.40am Presentation from Pawsey researchers

The supercomputing challenge. Dr Karen Lee-Waddell, CSIRO Astronomer

The Australian Square Kilometre Array Pathfinder (ASKAP) is a brand-new telescope that utilizes innovative technology to carry out wide-field astronomical observations with unprecedented survey speed, sensitivity and resolution. The tremendous amount of data produced by ASKAP is a significant challenge for current computing capabilities. ASKAP recently started Early Science observations and although processing this data has been pushing the limits of Pawsey Supercomputing system, preliminary results are very promising.

Computational Materials Design: The Power and the Passion, Prof Sean Smith, University of New South Wales

In the coming decade, theory and modelling will harness massive advances in high performance computing to enable an unprecedented acceleration in discovery and development of new materials for the energy, environment, health and IT sectors. I will overview selected programs in (i) discovery and development at the IMDC of the new “charge modulation electrocatalysis” technology and (ii) design of polymeric vectors for drug delivery. Both programs have benefitted enormously from the use of computing at the Pawsey Supercomputing Centre.

11.20am Pawsey Supercomputing Staff. Supercomputing, Data and Visualisation services

11.45am Q&A and networking session

Afternoon Session March 22nd - Training

1.00 pm – 4.00 pm Introduction to Supercomputing training session.

After completing the training session, the attendee will be able to:

1. Understand basic parallel computing concepts and workflows
2. Understand the high-level architecture of a supercomputer
3. Use a basic workflow to submit a job and monitor it
4. Understand a resource request and know what to expect
5. Check basic usage and accounting information

4.00pm Sundowner - Have your say - what could Pawsey look like by 2020. At the sundowner, Pawsey staff will be available to listen to your views and opinions on what the Pawsey Supercomputing Centre could look like, if funding was available to refresh infrastructure.

March 23rd – ADACS Astronomy Training 9.00 am – 5.00 pm

9.00 am – 11.00 am Introduction to version control with git and github

11.00 am – 1.00 pm Introduction to data analysis using python-pandas

2.00 pm – 3.00 pm Introduction to Supercomputing at Pawsey including using GPU resources

March 23rd - Pawsey Clinic 1.00 pm – 3.00pm

Clinic venue: Bedegal Boardroom, AGSM Building, **University of New South Wales**, Kensington

ADELAIDE 24 March

Venue: **The University of Adelaide**, North Terrace Campus
Conference Room, Ingkarni Wardli building, Level 7,
SA 5005, Australia (max cap 50)

To attend please [RSVP here](#) by March 16th

Morning Session March 24th - Roadshow

10.30am Welcome by Joey Gerlach, User Experience Coordinator, eRSA

10.35am Presentation from Pawsey researchers

- **Quantum Chromodynamics and Supercomputing – Professor Derek Leinweber – The University of Adelaide**

Over the past 17 years, supercomputing performance, as measured in the TOP500 index, has grown at a rate of 1.8 per year. This near doubling of performance year after year makes it essential to adopt the latest programming paradigms. Equally important is investment in high-performance supercomputing resources and the Pawsey Supercomputing Centre is a key component of the national strategy. These investments keep Australians at the fore of internationally competitive fields in computational science, as opposed to enthusiastic spectators watching from the sidelines. After a brief review of international, national and local trends, I will show how Pawsey supercomputing resources have revealed the origin of mass in our universe. Through visualisations and animations I will illustrate the exotic structure of matter as determined from the first principles of quantum field theory.

10.55am Pawsey Supercomputing Staff. Supercomputing, Data and Visualisation services

11.25am Q&A and networking session

Afternoon Session March 24th - Training

1.00 pm – 4.00 pm Introduction to Supercomputing training session.

4.00pm Sundowner - Have your say - what could Pawsey look like by 2020. At the sundowner, Pawsey staff will be available to listen to your views and opinions on what the Pawsey Supercomputing Centre could look like, if funding was available to refresh infrastructure.

About the Pawsey Supercomputing Centre

The Pawsey Supercomputing Centre (Pawsey) is an \$80M investment by the Australian Government in the National Research Infrastructure program, to develop a supercomputing and data intensive science capability for general science but with a particular focus on support for radio astronomy and the Square Kilometre Array precursor telescopes as well as geosciences, minerals and resources research.

Pawsey is managed through a long-standing and successful unincorporated joint venture of the CSIRO, Curtin University, Edith Cowan University, Murdoch University and the University of Western Australia that provides services to researchers across Australia in the areas of supercomputing, data management and analysis, and visualisation.