

## National eResearch Newsletter - June 2021

### Message from AeRO:

**AeRO welcomes new Executive Committee members.**

In early June, AeRO held its AGM. While this has provided an opportunity for renewal, it was sad to say goodbye to our outgoing chair, Jenni Harrison and Executive Committee member Brendan Davey, both of whom have been with AeRO for a number of years.

We are pleased to welcome our incoming Executive Committee members: David Abramson, representing UQ's Research Computing Centre, Ian Duncan (ARDC) and Gareth Williams (CSIRO). David, Ian and Gareth join continuing Executive Committee members Frankie Stevens (AARNet) and Peter Elford (independent).

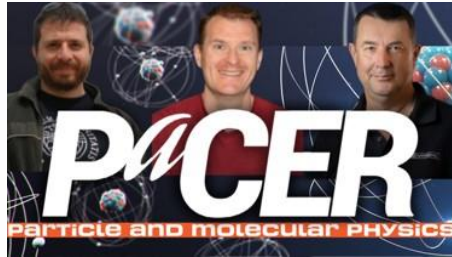
We look forward to the skills, energy and enthusiasm that the new Committee will bring in guiding AeRO to new heights over the coming year.

Phil Gurney, AeRO CEO.

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## PaCER Seminar: Particle and Molecular Physics: 22-Jun



Ten research projects were successfully granted access to the first Pawsey Centre for Extreme-scale Readiness (PaCER) program, establishing Australia's research platform for extreme-scale computing.

Tuesday 22 June 10am AWST / 12pm AEST

This event focuses on particle and molecular physics and is featuring Prof Pat Scott from the University of Queensland, Dr Waseem Kamleh from the University of Adelaide, and Curtin University, Professor Igor Bray.

Register here

<https://us02web.zoom.us/meeting/register/tZUIdeytqTooG9SGyS46kuu9t4pcmxmgLO0v>.

## Machine Learning Community of Practice (ML4AU): starts 24-Jun

# ML4AU

The ML4AU Community of Practice is hosting a series of three events to showcase applied machine learning in research. The primary purpose of the showcase events is to identify common opportunities, gaps and challenges in applying machine learning that can be resolved collaboratively through the ML Community of Practice.

When: 24 June, and 5 Aug, and 9 Sep, 2pm (AEST).

Run by: ARDC & Monash University.

More information and registration: <https://www.eventbrite.com.au/e/ai-and-machine-learning-in-imaging-showcase-event-1-tickets-157185057739>.

## PaCER Seminar: Radio Astronomy: 29-Jun



Ten research projects were successfully granted access to the first Pawsey Centre for Extreme-scale Readiness (PaCER) program, establishing Australia's research platform for extreme-scale computing.

This event focuses on Radio Astronomy and showcases Melanie Johnston-Hollitt from Curtin University and Martin Meyer and Marcin Sokolowski from the ICRAR UWA and Curtin node respectively. Tuesday 29 June 10am AWST / 12pm AEST.

Register here: <https://us02web.zoom.us/join/tZYvduipqzwqHtxZh5pF1cFVOhh4pIY11a4x>.

## ResBaz 2021: Getting Started with Using the Nimbus Research Cloud: 29-Jun



In this 90-minute webinar we introduce cloud computing and detail the Pawsey Supercomputing Centre's cloud computing resource called the "Nimbus Research Cloud".

Tuesday 29 June 2pm AWST / 4pm AEST.

You will have ample time for questions and if you're interested, you can also access a test environment to experiment with what you can do with cloud computing.

Register here: <https://pawsey.org.au/event/resbaz2021-nimbus-2/>.

## Pawsey Internships: Call for Projects: Open till 30-Jun



Pawsey are seeking strategic projects for the 2021/22 Pawsey Summer Internship Program, open to 3rd year – Masters' students, during the next Australian Summer break. The call for Intern Projects is open: June 11 – June 30, 5:00pm AWST (Perth time).

In brief, the goal of this paid Internship Program is to enable students to develop skills through immersion in computational science and research projects. The Internship Program lasts for 10 weeks during the timeframe late November 2021 to mid-February 2022. During this time, interns work alongside national and/or international supervisors and collaborators.

Further details and submission information are here:

<https://pawsey.org.au/supercomputing/training/summer-internships/>.

## ResBaz 2021: When to Scale Beyond Your Laptop: 1-Jul



How do you know when your dataset becomes “too big”? How do you know when your laptop can no longer do what you need it to do for your research? When is it best to use cloud resources? When is it best to use supercomputing resources? When do I need both (or neither)?

Thursday 1 July 1.30pm AWST / 3.30 AEST

During this interactive session, we will seek to answer these and associated questions, recognising that they are project-dependent, with real stories from individuals with years of experience working with early, mid and late career researchers.

Register here: <https://pawsey.org.au/event/is-your-science-causing-your-laptop-to-burn-identifying-when-to-scale-your-research/>.

## AARNet Researcher Talks 2021 Winter Series: 1-Jul



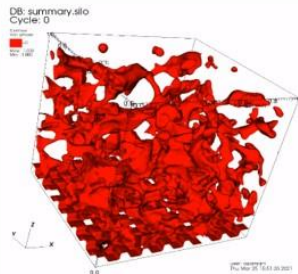
**Researcher Talks  
2021 Winter Series**

In this monthly series of Researcher Talks, you'll find out how researchers across different domains are using AARNet infrastructure to accelerate their research. Each session will feature a researcher speaking about their work and the tools and techniques they use for analysis, followed by an informal interactive Q&A session.

In Researcher Talk #2 1 July 1pm-2pm AEST (via Zoom), Ammar Aziz (PhD), WHO Collaborating Centre for Influenza (VIDRL - Doherty Institute), will demonstrate how he uses CloudStor for working remotely, continual backup of data through ownCloud, and collaborating with overseas colleagues using FileSender; he'll include some tips and tricks for working with Bash+R on the SWAN platform.

More information and registrations: <https://www.aarnet.edu.au/events/aarnet-researcher-talks-2021-winter-series>.

## Ask Me Anything: Porous Media Visualisation and LBPM: 5-Jul



If you are working on Digital Rock Physics and interested in fluid flow behaviour in Porous Media, this AMA is for you.

Monday 5 July 10am AWST / 12pm AEST.

Please join us to discuss Lattice Boltzmann Method for Porous Media (LBPM) and the opportunities for Pawsey researchers.

LBPM is one of the most complete derivatives of the Lattice Boltzmann Method (LBM) focusing on porous media providing computational as well as visualisation modules at a micro-scale. LBM is a well-known simulation tool in CFD, producing highly reliable results.

Register: [https://us02web.zoom.us/meeting/register/tZYvdeyhrD0vHNFCqah\\_KRf0m3oF0ydw2Xtd](https://us02web.zoom.us/meeting/register/tZYvdeyhrD0vHNFCqah_KRf0m3oF0ydw2Xtd).

## A National Approach for Research Software at C3DIS: 6-Jul

### A National Approach to Research Software

As part of the C3DIS conference, the ARDC are facilitating a BoF session to discuss questions regarding the recently released National agenda for Research Software. The agenda seeks to

address recognition of research software as a first class output of research in Australia.

When: 6 July, 2pm (AEST)

See <http://www.c3dis.com/events/a-national-approach-to-research-software>.

## Advanced Slurm Training: 13 to 16-Jul



This training is targeted at users who have already used SLURM but whose needs go beyond simple batch files or small interactive jobs.

Register: <https://pawsey.org.au/event/advanced-slurm-training/>.

## FSCI 2021 Online: starts 25-Jul



FSCI assembles researchers, scholars, librarians, publishers, funders and research administrators to explore new developments in open science, knowledge creation and communication.

When: 26 July - 5 Aug

Run by: FORCE 11 Scholarly Communication Institute (FSCI)

ARDC staff are instructors for two courses at FSCI 2021:

### 1. FAIR Data in the Scholarly Communications Lifecycle:

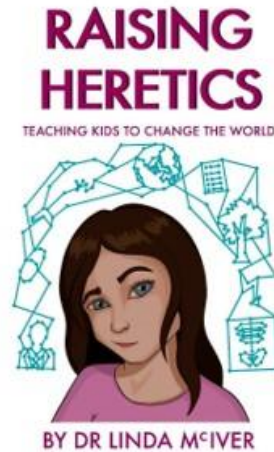
This course will focus on FAIR research data management and stewardship practices. It will provide an understanding of FAIR (findable, accessible, interoperable, and reusable) data and how it fits into scholarly communication workflows. Participants will learn about the FAIR Data Principles and how they can be applied in practice.

### 2. Case studies in the Earth Sciences: Current approaches to publishing, data and computation:

This course will take emerging and established researchers in Earth Science domains through current approaches to discipline-specific research workflows, including reproducibility, publishing, preserving and sharing data, and setting up computational and software environments at scale.

See <https://www.force11.org/fsci/2021/course-list-abstracts#W21>.

## Book Launch: Raising Heretics – Teaching Kids to be Critical, Creative Thinkers



Using Data Science to solve real world problems turns out to be a way of engaging all genders and personality types with STEM skills. But when you're solving real problems, there's no textbook solution, no way of knowing that your answers are correct, or that your solution is the best one. So students have to critically evaluate their own work. They have to develop creative problem solving and critical thinking skills, and consider the ethical implications of their solutions. Raising Heretics lays out a path from an ideologically driven, anti-science world to one with evidence based policy, by teaching our kids to be critical, creative, ethical thinkers who aren't afraid to challenge the status quo.

More information here:

<https://events.humanitix.com/raising-heretics-pre-orders-and-book-launch>.

International Data Week (IDW 2021) Postponed until June 2022



The founding organisations, the International Science Council's Committee on Data (CODATA) and World Data System (WDS), the Research Data Alliance (RDA), and local hosts announced earlier this month that International Data Week 2021 will be postponed to 20-23 June 2022 for the main conference. This decision was made in response to the continuing global COVID-19 crisis and its aftermath. In order to bring the international data community together and to ensure that the event would have the maximum impact for the hosts in Korea and internationally, having a significant in-person presence was an important element which would not have been possible in November 2021.

Announcements will be made in due course about the arrangements for IDW 2022 and for some virtual events still scheduled for November 2021 (see announcement about RDA Virtual Plenary 18).

Learn more at <https://internationaldataweek.org>.

## Research Data Alliance (RDA) Virtual Plenary 18 – Call for Sessions now Open



The Research Data Alliance will be holding Virtual Plenary 18 (VP18) from 3-18 November 2021. The three-week event will comprise a combination of Working and Interest Group sessions, joint meetings between multiple RDA groups, and Birds of a Feather sessions.

The Call for Sessions is now open until 9 July. For more information, please visit <https://www.rda-alliance.org/rdas-virtual-plenary-18-call-sessions-now-open>.

## A Behind-the-Scenes Look at Rolling Out New GPU Resources





New Zealand eScience Infrastructure (NeSI) is rolling out new infrastructure to underpin data science, specifically Graphics Processing Units (GPUs). On 20 May, research groups using machine learning applications were invited to begin accessing NeSI's new NVIDIA A100 GPUs, which was an exciting culmination to months of preparation and technology validation activities. If you're curious about what it takes to get the best of the A100 cards, check out NeSI's new blog series, "Tech Insights: A behind-the-scenes look at rolling out new GPU resources for NZ researchers".

Read more: <https://www.nesi.org.nz/case-studies/tech-insights-behind-scenes-look-rolling-out-new-gpu-resources-nz-researchers>.

## Exploring Successes and Considerations of Creating Workflows for Open Research

### New Zealand Research Software Engineering Conference 2021

Virtual conference | September 2021



Despite the range of challenges 2020 presented for research community gatherings last year, NeSI's re-branding and hosting of the New Zealand Research Software Engineering (NZ RSE) Conference was a resounding success for strengthening connections among those working on the cusp of technical and research domains.

For 2021, NeSI and the RSE Association of Australia and New Zealand are joining efforts once again to host an online conference from 15 - 17 September 2021 with social meetup opportunities in a few key locations around NZ. The 2021 theme is: "Workflows for Open Research".

Read more: <https://www.nesi.org.nz/news/2021/05/save-date-second-annual-nz-research-software-engineering-conference-happening-online-15>.

**Interested in Teaching Introductory HPC Skills to Researchers? Join the Effort!**



Members of The Carpentries community have made massive improvements to the lessons that give researchers an introduction to using High Performance Computing (HPC). In April, New Zealand Carpentries Regional Coordinator Megan Guidry hosted a community discussion to update New Zealand and Australian Carpentries community members on the recent activities propelling HPC Carpentry's evolution. Now, they're seeking volunteers to keep the momentum rolling and there's lots of ways to get involved.

Read more: <https://www.nesi.org.nz/news/2021/04/hpc-carpentry-wants-you>.

## Centre for eResearch and Digital Innovation – Newsletter Published



The Centre for eResearch and Digital Innovation at Federation University (CeRDI) has published its latest newsletter. This issue contains research news from across the Centre including:

- the Victorian drought resilience adoption and innovation hub;
- Soil CRC national participation meeting: Ballarat hub;
- Unlocking soil carbon data project; and
- Online Farm Trials.

To view the CeRDI newsletter visit:

[https://www.cerdi.edu.au/cb\\_pages/news/CeRDINewsletterAutumn2021.php](https://www.cerdi.edu.au/cb_pages/news/CeRDINewsletterAutumn2021.php).

## NCI Research: A Long-Term Project for Improving the Health of Indigenous Australians

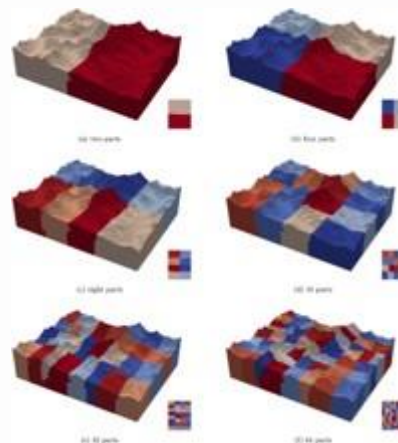


The National Centre for Indigenous Genomics (NCIG), based at The Australian National University, is a long-term initiative to bring equitable benefits of genomic medicine to Indigenous Australians.

The storage, processing, and analysis of genomic data from the NCIG collection has been taking place on the NCI supercomputing and data storage systems for five years with a view to making it available for clinical and research use in the future.

Read more at <https://nci.org.au/research/research-highlights/a-long-term-project-improving-health-indigenous-australians>.

## NCI Research: Creating a Super-Efficient Mesh Solver for High-Performance Computing



Researchers from the University of New South Wales (UNSW) have developed much more efficient methods for parallel computing of massive energy propagation problems on supercomputers, including Gadi. New algorithms, scalability improvements and a clever approach to using CPU cache has resulted in an efficiency greater than 100%.

Read the story at <https://nci.org.au/research/research-highlights/a-long-term-project-improving-health-indigenous-australians>.

## User Training Opportunities at NCI



NCI is currently running a variety of workshops, talks and other events aimed at NCI users and the eResearch community in general. Introduction to Gadi courses are held online and are aimed at users who are just getting started on the Gadi supercomputer.

For a full list of upcoming events, see the NCI Training Calendar at <https://opus.nci.org.au/display/Help/NCI+Training>.

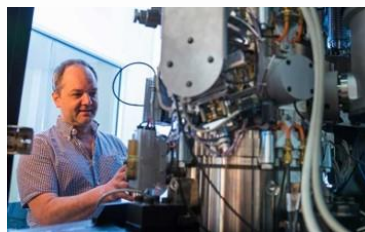
## Data Versioning – an Epic Chapter of a Long Story



A framework used by librarians for cataloguing books is shedding light on how researchers can precisely identify the digital dataset that underpins their work – a critical element of making sure the research is reproducible.

See more at <https://ardc.edu.au/news/data-versioning-an-epic-chapter-of-a-long-story/>.

## Big Images, Big Data Challenges



A new ARDC-supported project, Australian Characterisation Commons at Scale, aims to resolve the big-data challenges faced by microscopy facilities around the country by providing tools, best practice guides, specialised training and knowledge sharing.

See more at <https://ardc.edu.au/news/big-images-big-data-challenges/>.

## Research Data Alliance (RDA) Virtual Plenary 17 – Recordings and Daily Summaries



RDA is pleased to announce that sessions recorded at Virtual Plenary 17 (VP17) in Edinburgh in April 2021 are now available on the RDA website via the VP17 programme page. You can also access session descriptions by clicking on each session title on the Programme page, and visit the summaries page to read each day's activities.

See <https://www.rd-alliance.org/rdas-17th-plenary-meeting-programme>.

## Contributions

This newsletter is based on contributions from members of the eResearch community, and draws on news articles and newsletters published across the sector. The Newsletter is published around the 16th of each month. Please send all contributions (max. 100 words + link + image) or pointers to any other relevant articles or newsletters to [editor@aero.edu.au](mailto:editor@aero.edu.au).

Newsletter archives are available at <http://aero.edu.au/newsletters/>.

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Thanks, Alex Reid, AeRO Newsletter Editor.

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