

CAB newsletter 19 February 2025

You are receiving this as a member of the Centre for Applied Bioinformatics (CAB)

Not yet joined CAB? Well if you are receiving this you already have joined, but if you know anyone who would like to join, then please forward this message and they can now sign up using a simple web form from the members page at <https://www.appliedbioinformatics.com.au/Members.php>

News:

The Centre for Applied Bioinformatics welcomes everyone back for a new academic year. The centre continues to grow, now with more than 200 members. This year is looking to be particularly active with our first major symposium planned in partnership with the Pawsey centre. If you would like to present at this or contribute to the planning, please let me know. The Centre for Applied Bioinformatics is aligned with the UWA Master of Bioinformatics and we continue to search for projects for students to undertake, so if you are interested in hosting one of these students, please let me know. Students may also contact you directly if your details are listed on the CAB membership page. There are some changes happening with the Pawsey VM servers, details are below. If you would like to advertise any events, jobs, scholarships or spread bioinformatics news, please get in touch.

Infrastructure:

Nimbus server update

Pawsey announced that they will decommission their Nimbus servers at the end of this year. A replacement is being planned and we will keep you updated. If you have specific questions around this, please contact Aditi Subramanya at Pawsey (aditi.subramanya@csiro.au). Pawsey are also offering a fast track access path to simplify the process for users to gain experience on their advanced supercomputer system. Further information is below.

- Pawsey Fast Track Scheme: <https://pawsey.atlassian.net/wiki/spaces/US/pages/184778753/Fast+Track+Access+Scheme>
- Nectar eligibility for Nimbus users: <https://support.ehelp.edu.au/support/solutions/articles/6000272127-nimbus-cloud-changes-information-for-users>
- UWA webinar, additional resources for researchers to access Pawsey: <https://www.dropbox.com/scl/fo/bhymsgdqq3yeeok0notgy/AEgp2yJlDtd8LHBE36abYCI?rlkey=bc3epltcuer32seipwz45mo7h&dl=0>

Jobs:

Research Fellow in Bioinformatics (UWA)

A three-year postdoctoral applied bioinformatics position is available in the Edwards group. For more information, please contact dave.edwards@uwa.edu.au

Casual trainer opportunity for PhD students at Intersect Australia

Intersect Australia is currently seeking PhD candidates to join our Training team as Digital Research Trainers, a paid casual role with an average workload of 1 day per week and flexibility that complements the requirements of completing a PhD. We are specifically looking for trainers with some experience in High-Performance Computing (either PBS Pro or Slurm), but we also invite researchers with skills in any of the courses in our catalogue to apply. More information at <https://shorturl.at/SMELs>

Bioinformatics internships:

PathWest Laboratory Medicine WA

Projects are mainly in Immunology (related to autoimmune conditions, general immune system deficiencies, and transplantation) and Microbiology (Species identification and characterization). Of particular interest are the HLA (Human Leukocyte Antigen) and KIR (Killer cell Immunoglobulin-like Receptor) genomics. We use Nanopore sequencing to study the genetic variations within the HLA and KIR gene clusters, determine present alleles and haplotypes and their frequencies, and study the architecture of novel alleles to improve targeted sequencing and genotyping. Recently, we have extended the sequencing-based genotyping to include ABO locus, primary immunodeficiency (PID), and autoimmune disease-associated genes such as VEXAS.

Potential students will have a range of subjects to choose from:

Developing pipeline(s) for clinical variants detection and characterisation in PID genes as well as other genes of interest (preferable multigene platform)

Developing pipeline(s) and curating reference databases for species identification in a clinical setting

Developing data integration dashboard(s) and protocols for clinical decision-making

Developing genotyping methods and pipeline(s) for targeted/WGS/exon sequencing for various genes.

Ideal students will be comfortable with programming languages R and Python (largely supported under the Health network), and familiar with – or willing to learn- workflow management language Nextflow (preferred for portability and reproducibility in TEST and PROD environments).

Students will be encouraged and supported to co-author the results of their projects.

All projects will be based at our Fiona Stanley site. Please contact fredrick.mobegi@health.wa.gov.au for more details.

Calling all bioinformatics students:

COMBINE is the Australian computational biology and bioinformatics student society. Students can subscribe at <https://www.combine.org.au/> This year we are fortunate to have our own COMBINE WA representative, Jevin Parmar, based at the Harry Perkins Institute. Jevin has been particularly active in developing local training

supported by COMBINE CAB. For further information on COMBINE, please contact Jevin directly.

Projects for Masters student dissertations

The UWA Master of Bioinformatics continues to expand. We are always looking for new hosts for dissertation projects. Please email dave.edwards@uwa.edu.au if you would like to host a student for their bioinformatics Masters dissertation. Some available projects are below:

Dr Erin Lloyd, School of Human Sciences

A meta-analysis of the transcriptome of the Callipyge locus in ageing human skeletal muscle – is there dysregulation across the lifespan?

Transcriptome analysis of the Callipyge locus in ageing mouse and rat skeletal muscle – is there dysregulation across the lifespan?

Please contact erin.lloyd@uwa.edu.au for more details

Prof. Dave Edwards, Applied Bioinformatics Group

Projects are available in plant and animal genomics as well as crop trait association and dissection. Please contact dave.edwards@uwa.edu.au for more details

PhD Scholarships available

The UWA applied Bioinformatics group is seeking candidates. Projects are available in the areas of **crop genome bioinformatics** as well as the **application of machine learning for trait association**. Please contact dave.edwards@uwa.edu.au for details.