

## CAB newsletter 21<sup>st</sup> April 2022

You are receiving this as a member of the Centre for Applied Bioinformatics (CAB), if you would like to submit anything to this newsletter, please send to [Dave.Edwards@uwa.edu.au](mailto:Dave.Edwards@uwa.edu.au)

### News:

**We now have more than 100 CAB members with more joining each week. Not yet joined CAB?** Well if you are receiving this you already have joined, but if you know anyone who would like to join, they can now sign up using a simple web form linked from the members web page: <https://www.appliedbioinformatics.com.au/Members.php>

### Publication highlights:

This is a section where members can suggest papers from their own group or elsewhere that they want to promote to centre members. They take the simple format of a title, download and short summary. If you have published something you would like to promote or have seen an interesting paper you think others may be interested in, please them to me for inclusion in future newsletters.

The last piece 8% of human genome and epigenome was revealed by T2T consortium:  
<https://www.science.org/doi/10.1126/science.abj6987>  
<https://www.science.org/doi/10.1126/science.abj5089>  
<https://www.science.org/doi/10.1126/science.abl4178>

Title: Daisychain: search and interactive visualisation of homologs in genome assemblies.

Download: <https://www.mdpi.com/2073-4395/11/12/2587>

Short summary: There are often multiple versions of genome assemblies which can cause confusion for researchers looking at specific genes. This tool supports the construction of custom databases to identify and visualise gene homologues between genome assemblies.

### Conferences/meetings:

**Science on the Swan 2022** provides an opportunity to bring the WA health and medical innovation sector together. The Program is now available with speakers and topics on the conference website: [www.scienceontheswan.com.au](http://www.scienceontheswan.com.au)

The next **Cancer Research Cluster gathering** will be at 3-4.30 pm on the 22<sup>nd</sup> of April. Please register [link](#) to attend. A/Prof Evan Ingley will present his cancer research and our grant office will provide a workshop for new mechanisms.

### Want to present your work?

**CAB presentation schedule:** We are looking for volunteers to talk about their work at future CAB meetings. The format is short 15-20 minute talks highlighting your research, open to all levels. Please email [dave.edwards@uwa.edu.au](mailto:dave.edwards@uwa.edu.au) if interested

**Data Institute Research Cluster talk in September:** The institute of data are planning a bioinformatics focussed cluster talk, we are looking for volunteers to present their work to the data science community with the aim of supporting future collaborations. Please email [dave.edwards@uwa.edu.au](mailto:dave.edwards@uwa.edu.au) if interested

## Training:

**Interested in AI?** There is a fast.ai course <https://itee.uq.edu.au/event/2022/practical-deep-learning-coders-uq-fastai>. It will run from 26<sup>th</sup> April to 28<sup>th</sup> June with classes once a week, that I can follow online with the potential to attend a 2 day hackathon in Brisbane. If you are planning to join this and want some company, Monica Danilevicz [monica.danilevicz@research.uwa.edu.au](mailto:monica.danilevicz@research.uwa.edu.au) is registered. If there are enough people interested we could organise a venue to 'attend' together.

**Microscopy Australia** are hosting a workshop about 3D data visualization for publication <https://micro.org.au/events/byo-workshop/> It is next week 27<sup>th</sup> April

**Cyverse container camp** May 12-13, 2022 | Virtual. Come with basic command line skills, learn how to use containerized workflows with your datasets, and gain a foundation for doing more reproducible science. Details here: [https://cyverse.org/cc?mc\\_cid=766cc0c56a&mc\\_eid=27d36d9297](https://cyverse.org/cc?mc_cid=766cc0c56a&mc_eid=27d36d9297)

**NCI introduction to GADI HPC:** The next session is on **May 5, 2022**. It is a 2-hour webinar session running on a monthly basis. Find more course details on [our Opus page](#).

## NCI training:

- Apr 29, [Beyond the basics: Julia](#)
- May 4/5, [Learning to Program in R](#)
- May 10/11, [Data Manipulation and Visualisation in R](#)
- May 16/17, [Introduction to Machine Learning using R: Linear Regression](#)
- May 23, [Introduction to Machine Learning using R: Classification](#)
- May 31, [Introduction to Machine Learning using R: SVM & Unsupervised Learning](#)
- Jun 2, [Version Control with Git](#)
- Jun 3, [Data visualisation in Python](#)

A couple of exciting data science bootcamps lined up for researchers who need to deal with Tbytes or even Pbytes of research data processing pipelines. They are Python based and aims to introduce the powerful GPU for performance in data analysis and ML/DL applications. You will experience the last version of NVIDIA GPU A100 and enjoy the performance improvement with little modification on your existing workflow.

If you are looking for recipes to scale up and out multiple GPUs to accelerate your ML/DL workflows, please sign up this bootcamp (**May 4/5**): <https://gpuhackathons.org/index.php/event/nci-australia-distributed-deep-learning-gpu-bootcamp>. Application deadline is April 5.

If you are looking for an overview of Python Parallel packages and use of GPUs, please sign up this bootcamp (**May 18/19**): <https://gpuhackathons.org/index.php/event/nci-cuda-python-gpu-bootcamp>. Application deadline is April 27.

## **WORKSHOP: R - fundamental skills for biologists**

Four sessions between 1-22 June 2022, 2-5pm AEST.

Getting started with R can be a little daunting if you're new to programming. In this four-part workshop we will equip you with the foundations for efficiently using R and RStudio with biological data. Using gene expression data from a model of influenza infection, you will learn how to efficiently and reproducibly organise, read, wrangle, analyse, visualise and generate reports from your data in R.

## **Jobs available:**

### **Systems Biology Position available in Perth WA**

A long-term bioinformatics position is available for a team member interested in synthetic biology and molecular diagnostics using systems biology. This position is within the Mitochondrial Medicine and Synthetic Biology Group at University of Western Australia. This Group has significant links across the national and international biomedical and health sector and expertise in a wide range of experimental and computationally approaches.

The appointee will, under limited direction, perform bioinformatic analyses of genomic, transcriptomic, proteomic and metabolomic datasets and integrate the data. The position requires skills in RNA sequencing analyses, whole genome and exome sequencing to identify mutations and analyse the effects of mutations in human and mouse genomes. Software development skills are desirable.

Requirements: Honours, Master's or PhD degrees in Computer Science, Bioinformatics, Genetics or an equivalent qualification. Well-developed organisational skills and the ability to meet deadlines. Ability to work independently and as part of a team.

Interested candidates should contact: Aleksandra Filipovska [email: aleksandra.filipovska@uwa.edu.au](mailto:aleksandra.filipovska@uwa.edu.au)

### **Job No# 509174 - Research Associate / Research Fellow – Applied Bioinformatics**

<http://external.jobs.uwa.edu.au/cw/en/job/509174?ApplicationSubSourceID=>

<https://www.nature.com/naturecareers/job/research-associate-research-fellow-applied-bioinformatics-the-university-of-western-australia-uwa-755898>

### **Job No# 509303 - Research Associate – Crop Genomics**

<http://external.jobs.uwa.edu.au/cw/en/job/509303?ApplicationSubSourceID=>

<https://www.nature.com/naturecareers/job/research-associate-crop-genomics-the-university-of-western-australia-uwa-755899>