

# CAB newsletter 5<sup>th</sup> August 2022

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>

## Focus on the Swiss Institute of Bioinformatics (SIB):

SIB had an outstanding record of training and support in applied bioinformatics. This month CAB Director Dave Edwards met online with Patricia Palagi, head of training at SIB to learn more about what they do and how we can collaborate.

SIB has collated possibly the best set of training material for bioinformatics available:

<https://github.com/sib-swiss/training-collection>

This ranges from scripting through to sequence analysis, machine learning and data management. This is all free and people can upload their training material to make it accessible to the broader international bioinformatics community. CAB already uses some of this material in the Master of Bioinformatics, but there is a lot more here than I was aware of previously and clearly sorted to find the most relevant information.

In addition to collating research materials, they develop their own courses. Unfortunately for us, they mostly face to face or streamed, but material from past courses is available here: <https://github.com/sib-swiss> and <https://www.sib.swiss/training/e-learning>

To sign up to the SIB newsletter, please complete the details here: <https://www.sib.swiss/about-sib/sib-publications#newsletter>

SIB are interested in establishing collaborations, hosting Masters and PhD students as well as more advanced researchers. Similarly, CAB members may also consider hosting students and researchers from SIB. This would work best on a researcher to researcher basis. To see who is doing what at SIB, take a look at their community page: <https://www.sib.swiss/scientific-community/research/fields-of-activity>.

Looking to move to Switzerland? They have plenty of bioinformatics jobs available at SIB: <https://apply.refline.ch/499599/search.html>

## News:

**Want to work with the University of Arizona?** CAB is organising a virtual symposium of short presentations with University of Arizona researchers to try to identify potential collaborations (date to be confirmed). If you would like to attend or present at the virtual meeting, please email [Dave.Edwards@uwa.edu.au](mailto:Dave.Edwards@uwa.edu.au)

**Twitter addicts**, get your fix of the latest bioinformatics tweets at @UWABioinfo

Promote your publications through CAB tweets! Please email any of your recent publications and we can promote through the CAB newsletter and twitter account [@UWABioinfo](#)

Missed a previous newsletter? Fear not, they are now all available online at: <https://www.appliedbioinformatics.com.au/Newsletters.php>

## **Talks:**

### **First joint CAB – Institute of Data joint meeting**

Wednesday 14<sup>th</sup> September 3pm at Forrest Hall and online, followed by drinks and nibbles.

Presenters:

Philipp Bayer (Mindaroo): OceanOmics at Mindaroo – bioinformatics for healthier oceans

Eric Alves (UWA): Applied bioinformatics for immune cell profiling

Nicola Armstrong (Curtin): Identifying short tandem repeats and their impact on disease.

In person attendance is limited so reserve your place early by email: [dave.edwards@uwa.edu.au](mailto:dave.edwards@uwa.edu.au)

## **Infrastructure:**

### **NCMAS opens in August:**

The National Computational Merit Allocation Scheme call for 2023 is opening soon.

Key dates:

15 August – Applications Open

18 September – Applications Close

30 November-2 December – Merit Allocation Meeting

Week of 12 December – Allocations Announced

The NCMAS Secretariat will be running weekly information sessions from the 9th of August to the 13th of September. Register here. [https://anu.zoom.us/meeting/register/tZwtc-CtrjsiG9ZNd2VCi\\_hBmBVSAAnSVx8KX](https://anu.zoom.us/meeting/register/tZwtc-CtrjsiG9ZNd2VCi_hBmBVSAAnSVx8KX)

### **The NCI Adapter Scheme:**

The NCI Adapter Scheme, providing quarterly allocations of up to 250 KSU across the Gadi supercomputer, Nirin cloud computer and high-performance storage, is closing for Q4 applications on Sunday the 14th of August. The Application form is available here: [https://anu.au1.qualtrics.com/jfe/form/SV\\_9NSsXYjwjCH3FNc](https://anu.au1.qualtrics.com/jfe/form/SV_9NSsXYjwjCH3FNc)

## Training:

### ResBaz Perth 2022:

6 - 8 September | Curtin University

The Perth Research Bazaar is a 3-day conference where researchers come together to up-skill in 'next generation digital research tools and skills', including bioinformatics!

Places are limited to 100, but UWA have secured 20 seats at \$100 a head, please contact [agi.gedeon@uwa.edu.au](mailto:agi.gedeon@uwa.edu.au) for the code. Then register here: <https://curtinic.github.io/ResBazPerth2022/>

### NVIDIA Bootcamps

Two new Bootcamps: the NCI and NSCC OpenACC GPU Bootcamp on 17 and 18 Aug 2022 (<https://www.openhackathons.org/s/siteevent/a0C5e000005UNuNEAW/se000139>) and the NCI, Pawsey, and NeSI CUDA GPU Bootcamp from 7 Sep to 9 Sep 2022 (<https://www.openhackathons.org/s/siteevent/a0C5e000005UNudEAG/se000140>). These Bootcamps are an exciting and unique way for scientists and researchers to learn the skills needed to start quickly accelerating codes on GPUs.

### LifeSciTrainers

LifeSciTrainers is a virtual, global community of practice for life science trainers: anyone who delivers short-format training (workshops, boot camps, short-courses, etc.) The site and Slack channel serves as a forum for trainers to share their knowledge, resources, and expertise, develop and promote standards for training and open educational resources. The slack channel open to all and there are monthly community calls and talk series (given twice a month for both Western and Eastern hemisphere times). Check out:

<https://lifescitrainers.org/> and the Slack link:

[https://lifescitraining.slack.com/join/shared\\_invite/enQtNDc2NDk2NzMyNjkyLTA0Zjk5YzAwN2RlMTQyODg3NWJhMzhY2NkY2I3MzBkZDhlOTY4OTIxYWVjNjQ2MjQ1N2VhYTZhYmU1ZDZjOTc#/shared-invite/email](https://lifescitraining.slack.com/join/shared_invite/enQtNDc2NDk2NzMyNjkyLTA0Zjk5YzAwN2RlMTQyODg3NWJhMzhY2NkY2I3MzBkZDhlOTY4OTIxYWVjNjQ2MjQ1N2VhYTZhYmU1ZDZjOTc#/shared-invite/email)

### 2022 WA Health Hackathon Launch:

Mon 8 August 2022, 12.00 - 2.00pm

FLUX, 191 St Georges Tce, Perth

More information: <https://wadsih.org.au/wa-health-hackathon/>

### PhD Scholarship:

PhD scholarship to study Improved Prediction, Remediation and Closure of Acid and Neutral Metalliferous Drainage (AMD/NMD) Sites by Examination of Mine Waste Behaviour at the Meso-scale

Acid and neutral metalliferous drainage (AMD/NMD) remains a vexed and costly environmental management challenge for the mining industry. Estimates of AMD and NMD

in Australia are estimated for operating and abandoned mine sites to be in the order of A\$40k to \$100k per ha respectively, or \$120 million and \$650 million p.a. nationwide. Equivalent estimates internationally are greater, with combined total liability costs for remediating AMD/NMD-impacted sites in the US and Canada running into the tens of billions of dollars. It is essential that long-term stability of these wastes is maintained, via sustainable low-cost methods, to prevent the release of metals, metalloids and acid into the environment; as well as allowing for site repurposing and economic transitions.

The overall objective of this project is to develop improved prediction and remediation of AMD and NMD from mine wastes. The Cooperative Research Centre for Transformations in Mining Economies (CRC TiME; <https://crctime.com.au/about/about1/>) provides the framework by which to do this by enabling the investigation of mine wastes from across a range of climatic zones and evolutionary stages of weathering and closure planning. Previously, widespread failings in standard international AMD/NMD assessment methods on scale-up have been identified and recognised in Australia and internationally. There are potential improvements, utilising both mineralogy and microbiology, for assessment and remediation of the undersaturated mine waste zone through examination of the behaviour of mine wastes at a range of scales, with emphasis on the mesoscale at greater than one tonne.

The successful applicant will be part of a large international multidisciplinary team and will have the opportunity to interact extensively with our industry partners. Industry partner sites of interest are international in scope across Australia, Mongolia, Peru, Guinea, USA. This project will provide the necessary experiences, on completion of PhD studies, for graduating students to choose career pathways as diversified as research scientist or industry practitioners. A range of state-of-the-art facilities and equipment are available (e.g., <https://www.flinders.edu.au/microscopy>).

Applicants should have an Honours degree or Bachelors degree with relevant experience in chemistry, chemical engineering, microbiology or mineralogy or a related field.

Stipend: Both full scholarships (\$29,000 p.a tax free) and top up scholarships (\$10,000 p.a.) are available. Allowances are also available for relocation and thesis preparation. There will be opportunities to attend national and international conferences relevant to the research and also to visit sponsor industries mine sites.

Application Deadline: September 8th, 2022

Contact: Professor Sarah Harmer (Ph +61 8 82015338, e-mail Sarah.Harmer@flinders.edu.au)

## **Jobs:**

### Job description

A/Prof. Anthony Bosco is seeking a Data Scientist IV/Bioinformatician to join his academic research laboratory at the University of Arizona. The role will be based within the Asthma and Airway Disease Research Center (A2DRC), an interdisciplinary Center of Excellence at the University of Arizona College of Health Sciences, and the leading US center focused on understanding the early origins of asthma and COPD. The role will entail applying cutting-edge systems biology approaches (multi-OMICS, single cell genomics) that will enable a much deeper understanding of the role of the developing immune system in the pathogenesis of chronic lung diseases. The long-term goal of this work is to unlock the molecular secrets that govern the early origins of asthma and related traits and accelerate the development of novel therapies.

The ideal candidate for this position will be passionate about developing creative and innovative solutions to further our understanding of the pathogenesis of complex diseases. They will be working with a multidisciplinary team comprising internationally recognized

physicians, scientists, and scholars seeking to understand and eradicate airway diseases. They will have a PhD in Systems Biology, Computational biology, Bioinformatics, Data science, or a related discipline, experience with the analysis of omics and/or single cell genomics data, and a solid understanding of biology/molecular biology. Preference will be given to candidates who have experience with HPC, reproducible workflows, and a track record of publications in good quality journals. The candidate will have the opportunity to lead their own project, apply for grant funding, and file patent applications where appropriate.

Applicants will need to apply through the UArizona talent portal: <https://tinyurl.com/34sjzpm4>

Location: Bio5 Institute, the University of Arizona

Salary range: \$67,856 - \$92,624 USD

Closing date: Positions will remain open until filled.