

Bringing together the UCL community who use computational and data sciences or digital technologies in their research.

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Dear Colleagues,

Welcome to the fourth edition of the UCL Digital Research Community newsletter! As we hope you already know, ARC (the UCL Centre for Advanced Research Computing) has joined forces with the eResearch Domain and you are receiving this newsletter because you previously signed up for either (or both) of the old newsletters. As always, please do forward this email to any colleagues you think may be interested.

If you haven't already signed up for this newsletter, you can do so here:

<http://eepurl.com/bBs6ov>

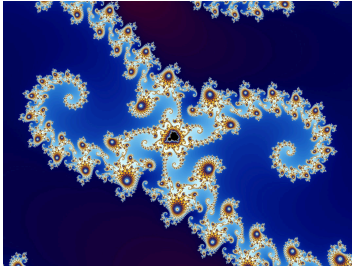
## Reader Poll

This has now closed and we are very grateful to those of you who responded. We have taken your feedback onboard, and as the majority of respondents said they would like a monthly email newsletter we will be endeavouring to deliver this from now on! Thank you once again.

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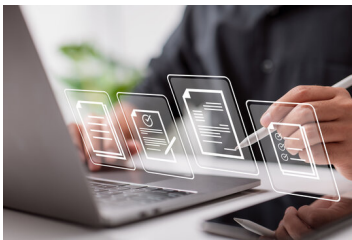
# Community Updates



## Project Contender - Novel Architecture Machines

Our new Nvidia **Grace-Hopper** architecture machine, codename “**Locust**”, mentioned in our December newsletter, is now **operational**. This has an Arm architecture CPU and an H100 GPU, tightly coupled with an NVLink-C2C interconnect providing coherent memory, so that, for example, larger Machine learning models can be run. If you would like to benchmark your code on this system, or use it for any other experimental purpose, then please email [j.legg@ucl.ac.uk](mailto:j.legg@ucl.ac.uk). More details of other novel and esoteric architecture systems can be found at:

<https://www.ucl.ac.uk/advanced-research-computing/coming-soon-platforms>



## Getting a handle on third-party datasets: researcher needs and challenges

ARC has completed the first phase of work on the third-party datasets project which will help researchers better access and manage data provided to UCL by external organisations. Learn more about the project and our plans here:

<https://www.ucl.ac.uk/advanced-research-computing/case-studies/2024/jan/getting-handle-third-party-datasets-researcher-needs-and-challenges>



**k-Plan ultrasound software therapy planning software released**

One of ARC's longest-running collaborations is with UCL's [Biomedical Ultrasound Group](#). Over the past three years, we've been developing a graphical user interface to simulate ultrasound treatment plans, and the software has now been released to researchers; licences are now available for sale through UCL's commercial partner, [BrainBox](#).

If you're interested in medical ultrasound, or think this software might help you, read Sam Cunliffe's recent blog post:

<https://blogs.ucl.ac.uk/research-software-development/k-plan-now-available-to-researchers/>

or UCL's press release:

<https://www.uclb.com/2023/12/08/new-technology-for-planning-transcranial-ultrasound-stimulation-available-for-researchers-following-brainbox-partnership/>



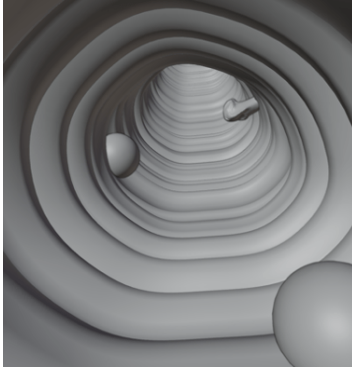
## **Convalescence Project - Research Data Stewardship Case Study**

UCL's Medical Research Council Unit for Lifelong Health and Ageing (MRC LHA) is home to the oldest birth cohort study in the UK. Data is held on study participants stretching back over 75 years, containing longitudinal data from birth on the health and social circumstances of a representative sample (5362) of men and women born in England, Scotland, or Wales in March 1946.

ARC's Research Data Stewards worked with the MRC LHA team to make their data analysis pipelines more open and reproducible, whilst ensuring the security of the underlying sensitive data.

Find out how they worked on the project at:

<https://www.ucl.ac.uk/advanced-research-computing/case-studies/2024/jan/data-stewardship-case-study-convalescence-project>



## **Randomising Blender scene properties for semi-automatic scene generation - Software Development Case Study**

ARC's Research Software Engineers worked with the UCL Wellcome / EPSRC Centre for Interventional and Surgical Sciences (WEISS) to develop a Blender add-on to randomise relevant parameters for the generation of datasets for polyp detection within the colon during surgery.

Prior to the project, the dataset generation involved a more laborious process of manually creating scenes in Blender with parameters changed manually for introducing variation in the datasets. A more efficient process was needed during the prototyping of synthetic dataset generation to decide what range of parameters make sense visually, and therefore in the future, to more easily extend to other use cases.

Read more about how the teams worked together to achieve this:

<https://www.ucl.ac.uk/advanced-research-computing/case-studies/2024/jan/randomising-blender-scene-properties-semi-automated-data-generation>



## **ARC Drop-in Sessions**

A reminder that we have resumed our in-person drop-in support sessions - these are for all research staff and research students, where you can get support and advice to help plan and tackle problems with your research. If you have any problems related to the following areas, we should be able to help:

- choosing the right software, hardware and services,
- research programming,
- task automation and scripting,
- high performance computing,
- storing large datasets,
- Research Data Storage (RDS) service induction,
- handling sensitive data,
- research data management (including writing data management plans).

If the problem is likely to need a lengthy discussion (half an hour or more) or requires very specific knowledge (e.g. of an unusual programming language) it would be very helpful if you could email a short summary of your problem to [arc@ucl.ac.uk](mailto:arc@ucl.ac.uk) at least 2 days before the session, so we can try to make sure a member of staff with appropriate expertise is available.

The remaining in-person drop-ins sessions for Term 2 are:

Tuesday 6th February 2024	11am - 12pm	<a href="#">IOE Bedford Way 20, Room A5.04</a>
Tuesday 20th February 2024	11am - 12pm	<a href="#">GOSICH, June Lloyd Room, Ground Floor</a>
Tuesday 5th March 2024	11am - 12pm	<a href="#">Charles Bell House, Room G03</a>
Tuesday 19th March 2024	11am - 12pm	<a href="#">Foster Court, Room 233</a>

For further details of the drop-in sessions and other support available, please visit:

<https://www.ucl.ac.uk/advanced-research-computing/support>



Join ARC Education for our next Teach and Code Social event on Wednesday 21<sup>st</sup> February, either on campus or online. We will hear from colleagues in Maths and Physical Sciences about a ChangeMaker project focusing on coding platforms for Teaching and Learning, and STACK an online assessment system for mathematics and STEM, designed to enable students to answer questions with a mathematical expression, such as a polynomial.

The Teach Socials are series of termly social and informal seminars organised by ARC Education and in collaboration with the UCL community and beyond, with the aim of building community, and sharing knowledge and learning in teaching digital research skills.

Please register your attendance at:

<https://www.tickettailor.com/events/uclarc/1120170>

NB Ticket sales will close on **20th February**.

We hope to see you there!

## Training & Workshops



### ARC Training

#### Intro to HPC at UCL Workshop, 13 - 15 February 2024

Join us on campus for an introduction to using high-performance computing systems effectively at UCL. This workshop is open to researchers, staff and students at UCL.

By the end of this workshop, participants will know how to:

- Identify problems a cluster can help solve
- Use the UNIX shell (also known as terminal or command line) to connect to a cluster.

- Transfer files onto a cluster.
- Submit and manage jobs on a cluster using a scheduler.
- Observe the benefits and limitations of parallel execution.

There will be the opportunity to ask questions about your specific workflows towards the end of the course. This course does not cover the details of parallel programming.

For more information and to book: <https://github-pages.arc.ucl.ac.uk/2024-02-UCL-HPC-onsite/>

You can find a full list of ARC-provided training on our Education pages at:

<https://www.ucl.ac.uk/advanced-research-computing/education/training>

including self-paced courses via Moodle.

If an in-person or online instructor-led course has no dates listed, please fill in our [expression of interest form](#) and we will contact you as soon as we have dates for the next session.



## Research Data Management Training

Learn how to write an effective data management plan for a project proposal or grant application!

Our colleagues in Library Services' Research Data Management Team run training sessions for writing data management plans, both online and in-person.

To find out more and to book a place, see their [booking calendar](#).

## UK Data Service & Love Data Week: My kind of data

Love Data Week (**12-16 February**) sees data organisations from all over the world coming

together to share insights and best practise. The theme this year is “My kind of data” and Service colleagues will be providing [data skills training and drop-in sessions across a variety of data types](#), ensuring attendees do indeed get the best out of their ‘kind of data’!

If you've missed a workshop, recordings of past UK Data Service events are made available on the [UKDS YouTube channel](#).



## ARCHER2 HPC Online Training

ARCHER2 Training is provided by EPCC (Edinburgh Parallel Computing Centre) as part of the ARCHER2 (Tier 1) national high performance computing service and is free of charge to research staff and students from academic institutions.

Upcoming online training includes:

- [ARCHER2 GPUs webinar](#) on **31 January 2024, 14:00 - 16:00**
- [Data Analysis and Visualisation in Python](#) on **7 - 8 February 2024, 09:30 - 17:00**
- [Data Carpentry](#) on **12 - 15 February 2024, 09:30 - 13:00**
- [Using Blender for Scientific Visualisation](#) on **14 February 2024, 15:00 - 16:00**
- [Understanding parallel I/O performance through profiling](#) on **21 February 2024, 15:00 - 16:00**

Self service courses (always open):

- [Shared Memory Programming with OpenMP](#)
- [Message-Passing Programming with MPI](#)
- [QM/MM with GROMACS + CP2K](#)
- [Hands-on Introduction to HPC](#)



For details of other training provided by ARCHER2, please visit:

<https://www.archer2.ac.uk/training/>



## Digital Skills Development Training

UCL's Digital Skills Development Team runs a variety of free training courses, many of which may be of interest to researchers - details of the full course programme for the spring term can be found at:

<https://blogs.ucl.ac.uk/digital-education/2023/12/08/develop-you-digital-skills-term-2-training-courses-and-more/>

Upcoming data analysis and visualisation online courses include:

- [DSD: Software for success: Data analysis & statistical tools](#) **30 January, 10:00 - 11:00**
- [DSD: Software for success: Winning with charts](#) **1 February, 10:00 - 11:00**
- [DSD: Software for success: Data visualisation](#) **5 March, 14:00 - 16:00**
- [DSD: An Introduction to R with Rstudio \(campus-based\)](#) **20 February, 10:00 - 17:00**
- [DSD: Better Tables in R \(campus-based\)](#) **31 January, 14:00 - 17:00**
- [DSD: Data visualization in R with ggplot2 \(campus-based\)](#) **7 February, 15:00 - 17:00**
- [DSD: Data manipulation in R with Rstudio](#) **8 February, 14:00 - 16:00**
- [DSD: Getting started with Stata \(campus-based\)](#) **6 February, 10:00 - 17:00**
- [DSD: Scripting Stata's Tables and Collections \(Campus-based\)](#) **6 March, 14:00 - 17:00**
- [DSD: Scripting Stata Graphs](#) **14 March, 14:00 - 16:00**
- [DSD: In a Nutshell: Starting an Nvivo Project](#) **1 February, 14:00 - 15:00**

- [DSD: Introduction to Matlab \(campus-based\)](#). 26 & 27 February, 10:00 - 17:00

Programming courses include:

- [DSD: Think like a computer programmer \(campus-based\)](#). 12 March, 10:00 - 17:00
- [DSD: A Quick Introduction to UNIX \(campus-based\)](#). 18 March, 14:00 - 17:00



## CLOSER Learning Hub

Longitudinal studies track the same individuals and households over time. They are powerful research tools to help us understand how our early circumstances and experiences influence our later lives. The CLOSER Learning Hub has information and resources to help you explore longitudinal studies and get you started using the data. Visit:

<https://learning.closer.ac.uk/>

## February & March Events



### State of Open Con 24

**6 - 7 February 2024, The Brewery, London**

Hosted by [OpenUK](#), this is the UK's Open Technology Conference: Open Source Software, Open Hardware, Open Data, Open Standards, and AI Openness.

Visit:

<https://stateofopencon.com/>

for further information and booking (some free tickets are available for students and those who otherwise would not be able to attend).



### UCL Institute of Healthcare Engineering Early-Career Researcher Festival 2024

**Fri 16 February 2024, 09:30 - 18:00, Gustave Tuck Lecture Theatre, Wilkins Building**

A festival by researchers, for researchers! With keynote talks, workshops and lots of chance to network, we'll be hosting this conference for ECR's on 16 February.

We welcome abstract submissions in all areas of Healthcare Engineering! Deadline for abstracts: **15 January**. To make a submission, click [here](#).

We will provide more details on the event schedule soon but for now...

[Book your free ticket](#)



**CLOSER ELS Webinar: Healthy Ageing**

**Wed 21 February 2024, 13:00 - 14:00, online via MS Teams**

CLOSER's new Emerging Longitudinal Scholars (ELS) webinar series offers a collaborative platform for fostering knowledge exchange and showcasing research by early career researchers at the frontier of longitudinal exploration.

Join us for the second webinar in the series which will focus on healthy ageing. Speakers include Edi Putra (University of Liverpool) and Alisha Suhag (University of Sheffield).

Find out more and register:

<https://closer.ac.uk/event/els-healthy-ageing/>



**Health Data Research UK Conference 2024: The Grand Challenges in Health Data**

**5 - 6 March 2024, 09:15 - 16:30, Royal Armouries Museum, Leeds**

Health Data Research UK's annual conference will be a free two-day, hybrid event to celebrate progress and bring people together to accelerate the trustworthy use of health data for public benefit.

The UK is in a unique position to realise the potential of health data, thanks to the NHS and its cradle-to-grave records for a population of over 65 million people. The last few years have demonstrated the enormous power of data to advance medical knowledge and deliver radical improvements to people's lives. But there is much more that can be done through large-scale data, advanced analytics and innovative developments in data governance.

For further information and registration, visit:

<https://www.hdruk.ac.uk/hdruk-conference-2024/>



## **ARChER2 Celebration of Science - Registration and Call for Posters**

We are pleased to announce that the ARChER2 Celebration of Science will take place on the **7th – 8th March 2024** in Edinburgh at South Hall, The University of Edinburgh. The event will provide ARChER2 users with the opportunity to showcase their science achievements on ARChER2. The two-day programme will include a variety of talks from members of the ARChER2 research consortia and other invited presenters involved in the ARChER2 service, a poster session and a panel session focusing on preparing the UK science community for future Exascale systems. All attendees are welcome to join the drink reception on the evening of the first day. The event is in-person and there is no registration fee.

Please visit:

<https://www.archer2.ac.uk/community/events/celebration-of-science-2024>

to participate.

The registration deadline is **29th February 2024**



## **Coding in public: Barriers to reproducibility**

**19 March 2024, 09:30 - 16:30, University of Manchester**

Reproducibility is an increasingly popular and important concept for building trust into science and research. However, reproducibility entails barriers that may be especially difficult for researchers from traditionally excluded or underrepresented populations.

This workshop dives into what reproducibility is in the context of social science and data research, as well as exploring what greater reproducibility might achieve in these research areas. Further, this workshop will identify barriers to reproducibility with special attention to why those barriers do not affect all researchers equitably. The workshop concludes with ideas for how researchers can identify how those barriers can be ameliorated for themselves or their colleagues and how collaboration to reduce research barriers improves research outcomes for everyone.

This is a free, full-day, in-person workshop. Participants will engage with discussions, polls, and activities which will require a laptop computer. Lunch and refreshments will be provided.

Please visit:

<https://ukdataservice.ac.uk/events/coding-in-public-barriers-to-reproducibility/>

for further details and booking.

# Dates for your Diaries!



## HARMONY 2024

8 - 11 April 2024, [Centre For Medical Image Computing, UCL](#)

The "**Computational Modeling in Biology**" Network (**COMBINE**) is an initiative to coordinate the development of the various community standards and formats in systems biology, synthetic biology and related fields. **HARMONY** is a codefest-type meeting, with a focus on development of the standards, interoperability and infrastructure. There are generally not many general discussions or oral presentations during HARMONY; instead, the time is devoted to allowing hands-on hacking and interaction between people focused on practical development of software and standards.

Please visit:

<https://co.mbine.org/events/>

for further details and registration.



## Festival of Digital Research & Scholarship

**Tuesday 11 June 2024, Gustave Tuck Lecture Theatre & Cloisters, Wilkins Building**

Save the date and join us for UCL's first ever Festival of Digital Research & Scholarship!

ARC will be hosting this full-day event and evening celebration of all aspects of digitally-enabled research and scholarship with a series of keynotes, panel sessions, demonstrations/workshops and presentations from ARC staff, students and hopefully, our researcher colleagues from across UCL.

As we would especially like to engage with and draw-in the 'yet-to-reach' and digitally isolated communities at UCL, our current plans are to cover a broad range of themes:

- High Performance Computing
- Educating digital researchers
- Open scholarship – software
- Open scholarship – data
- Smart governance

There will also be the opportunity for poster and abstract submissions to showcase work and projects covering the above themes - so, watch this space for the call-out!

Regards,  
UCL Centre for Advanced Research Computing (ARC)

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