First year of the ARCHER2 training service: a retrospective and forward look

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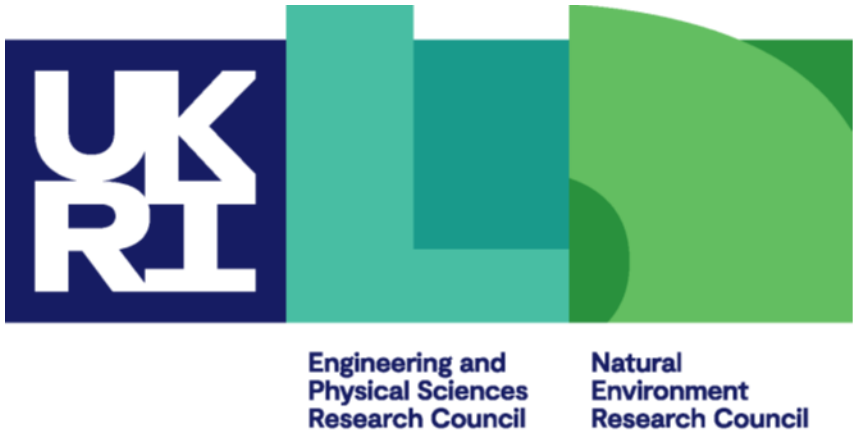
www.archer2.ac.uk

Reusing this material

Partners

epcc



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THE UNIVERSITY of EDINBURGH

Hewlett Packard Enterprise


Retrospective

Year 1 (April 2020 – April 2021)

- The first year of the ARCHER2 service has been very challenging due to the COVID-19 pandemic.
- Nevertheless, a fully-online training programme has been delivered without major issues.
- A total of **66 days of training** will be delivered by the end of April 2021.

Online teaching

- Advantages:
  - No need to travel.
  - Flexibility.
  - Cost savings.
- Disadvantages:
  - Socialising.
  - Support -> Lack of body language.

Online teaching platform

- Blackboard Collaborate:
  - Provided by the University of Edinburgh.
  - Breakout rooms, chat, recordings, etc.
- Zoom:
  - Also provided by the University of Edinburgh.
  - Breakout rooms, chat, recordings, etc.
  - Lightweight.

Before and during the course

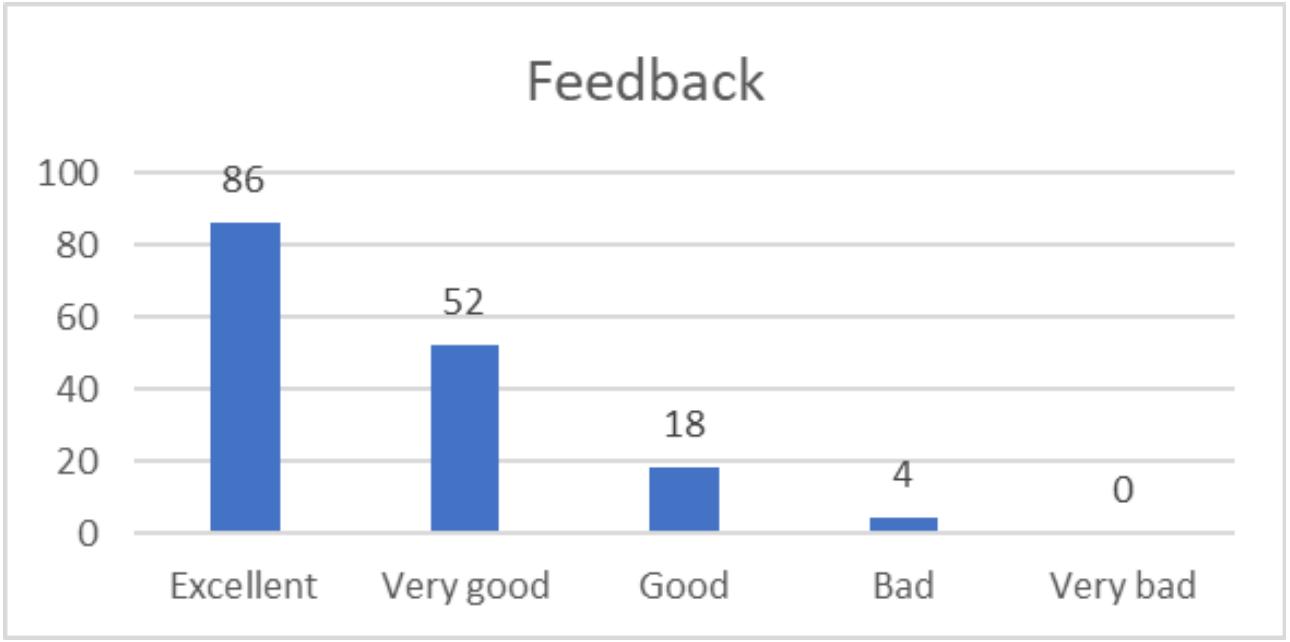
- Several course timetable approaches
  - Carpentries courses divided into four half-days.
  - One-day courses divided into two (for instance, “Introduction to CP2K”).
  - Two-day courses delivered in non-consecutive days (for instance, “Advanced OpenMP”).
- A slot for feedback is allocated in the last day of the course.
- Once the registration is done, the delegate receives further info about the course:
  - Course material.
  - Calendar invitation.

After the course

- An email with the feedback form is sent out after the course.
- Material from all online courses, including videos of the lectures, has been made freely available on the web after the live event.
- Follow-up session after the live course two-weeks / one month.
- No-shows.
  - BB Collaborate generates an attendance list.
  - A donation of £10 to Save the Children is requested to no-shown delegates.

Feedback

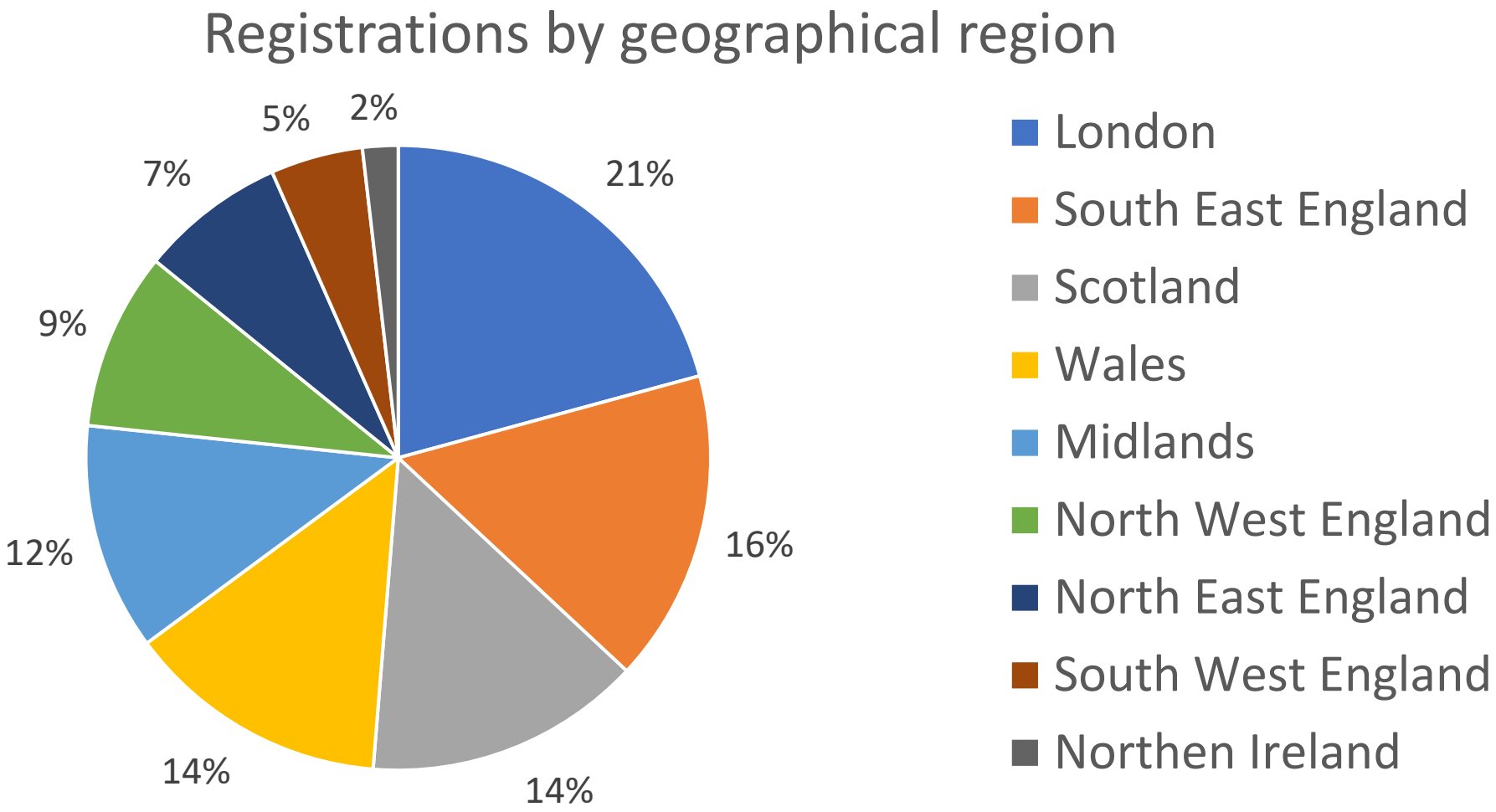
- Average feedback above 4
- Response rate: 50%



Feedback

"Thank you for your email - my preschooler was at home last week and I was unable to attend the live version but I was able to work through the youtube recordings later in the evening (I will have to do the same for this weeks' sessions). I just wanted to thank you so much for making the course accessible; live meetings and training sessions are often not and it makes it very difficult sometimes!"

Geographical spread



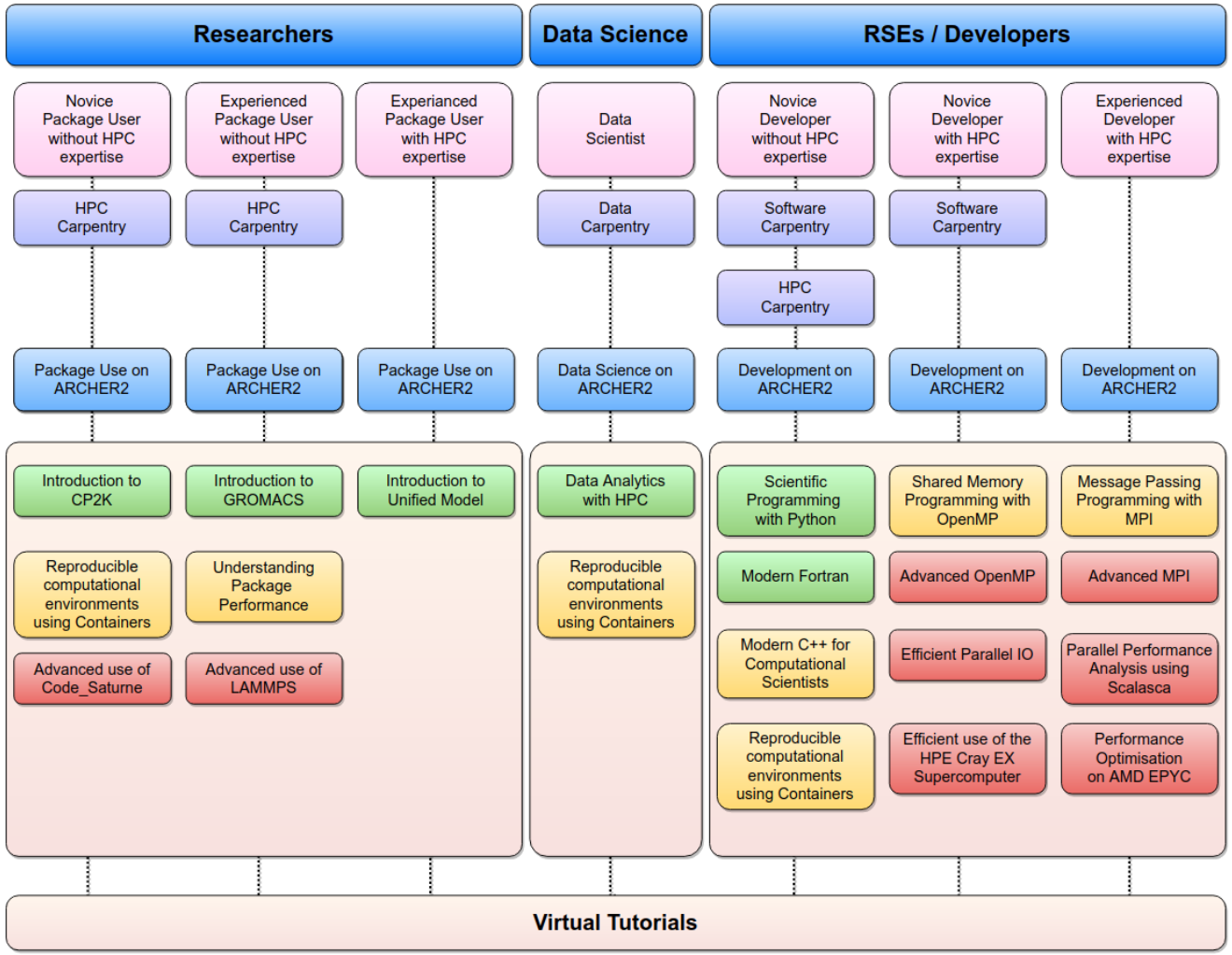
Forward look

Training programme 2021/22

- Feedback from:
  - ARCHER2 User Training Forum.
  - ARCHER2 Training Panel.
  - Users.
- ARCHER2 User Training Forum
  - One nominated member per all core consortia.
- ARCHER2 Training Panel
  - Six HPC training experts from the UK and overseas such as Sweden, US, and Australia.

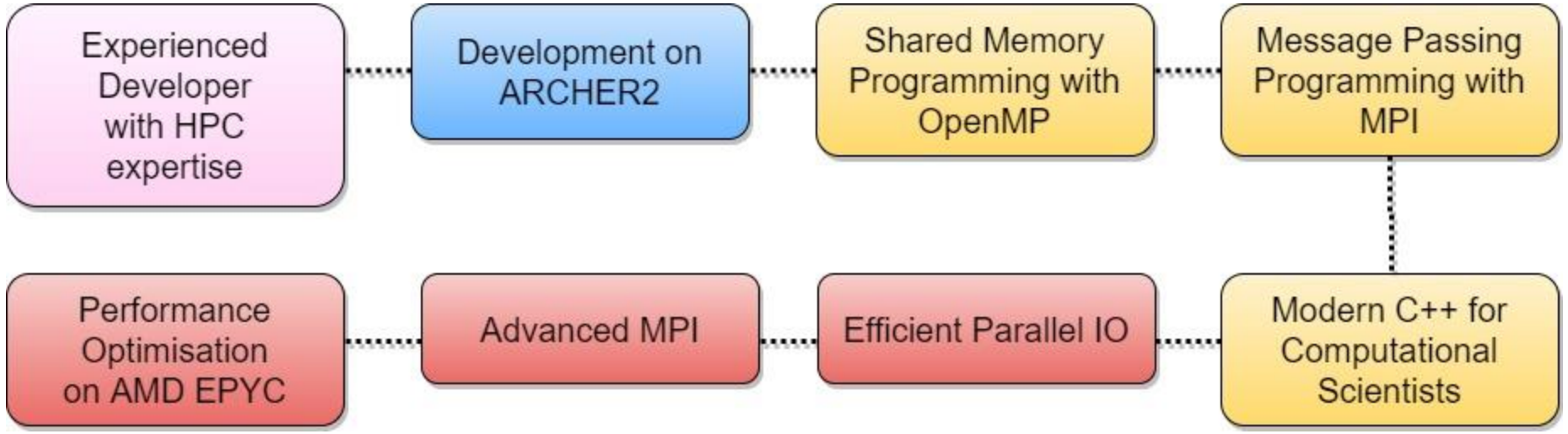
ARCHER2 Training Courses

https://www.archer2.ac.uk/training/courses/



Course paths

https://www.archer2.ac.uk/training/courses/course-paths



John is a postdoctoral researcher that joined The University of Edinburgh to carry out a postdoctorate research project after some time working in the industry. Before that, he did a PhD in Deterministic Global Optimisation where HPC techniques were applied to speed up tree-search algorithms. He has used local clusters but never ARCHER2. In addition, some refresher training to update skills and knowledge about parallel paradigms and C++ would be beneficial to ensure that important skills or knowledge have not been forgotten due to lack of use.

Scheduled online courses for October

Title	Date	Level
Advanced OpenMP	5, 8 Oct	Advanced (level 3)
Introduction to CP2K	11-12 Oct	Introductory (level 1)
ARCHER2 for Software Developers	18-19 Oct	Introductory (level 1)
Understanding Package Performance	28 Oct	Intermediate (level 2)

Further online courses can be found here:
https://www.archer2.ac.uk/training/#upcoming-training

Tentative online courses for Nov, Dec, Jan

- Data Carpentry
- HPC Carpentry
- ARCHER2 for Data Scientists
- ARCHER2 for Software Developers
- ARCHER2 for Package Users
- Introduction to GROMACS
- Reproducible computational environments using containers
- Scientific Programming with Python
- Modern Fortran
- Efficient Parallel IO
- Data Analytics with HPC

Tentative online courses for Feb-Apr 2022

- Software Carpentry
- Understanding Package Performance
- ARCHER2 for Data Scientists
- ARCHER2 for Software Developers
- ARCHER2 for Package Users
- Advanced use of Code_Saturne
- Message Passing Programming with MPI
- Efficient use of the HPE Cray EX System
- Introduction to UM
- Advanced use of LAMMPS

Virtual tutorials

- Interactive live webinars where experts can share their knowledge on a range of intermediate and advanced topics.
- Regular slot: Wednesdays at 3pm BST (sometimes at 11am BST).
- Recordings available on the ARCHER2 Youtube channel:
  https://www.youtube.com/channel/UCZi-oBdxoDV5CPEQnhmrCAg

Future Virtual Tutorials can be found here:
https://www.archer2.ac.uk/training/#upcoming-training

Self-service courses

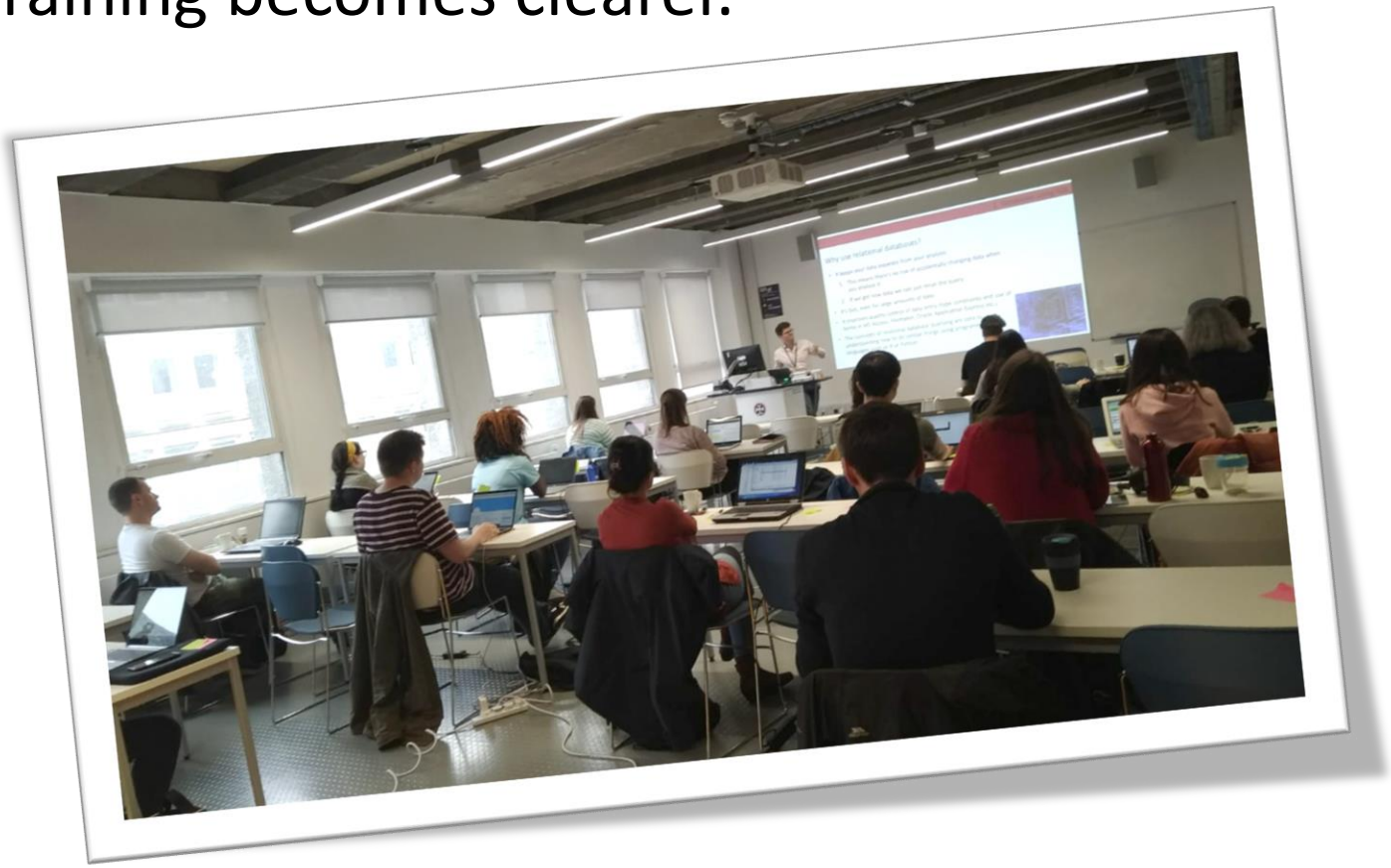
- Use of **online self-service courses** to allow people to access training when it suits them.
- Specifically tailored to be followed at a user's own pace.
- Available self-taught courses:
  - **Shared-memory programming with OpenMP.**
  - **Message-passing programming with MPI.**
- A Mattermost chat is available to ask questions and be in touch with the course tutors.
- All online self-service courses will be available in addition to the 60 days of scheduled training.

ARCHER2 Driving Test

- Test based on online training material with a multiple-choice test.
- Anyone who passes this test can apply for an ARCHER2 account with a small amount of compute time.
- Modelled on previous ARCHER driving test, developed when hardware is available.
- Different versions:
  - Researchers using pre-installed research software.
  - Data scientists.
  - Developers.
- The ARCHER2 Driving Test lowers barriers to access and ensures that anyone with key basic knowledge can get access to try out ARCHER2 for their research.

Face-to-face courses… when?

The programme will be delivered online until potential resumption of face-to-face training becomes clearer.



Summary

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The ARCHER2 training plan has the aims of:

1) Addressing the needs of all users.
2) Enabling them to make efficient use of ARCHER2.

October courses:

- Advanced OpenMP.
- Introduction to CP2K.
- ARCHER2 for Software Developers.
- Understanding Package Performance.

Follow us on:

- Website: https://www.archer2.ac.uk/training/
- ARCHER2 mailing list (further info on the above URL)
- Twitter: @ARCHER2_HPC