

ARCHER Training Courses

General Overview



EPSRC



NERC SCIENCE OF THE ENVIRONMENT



CRAY
THE SUPERCOMPUTER COMPANY



epcc



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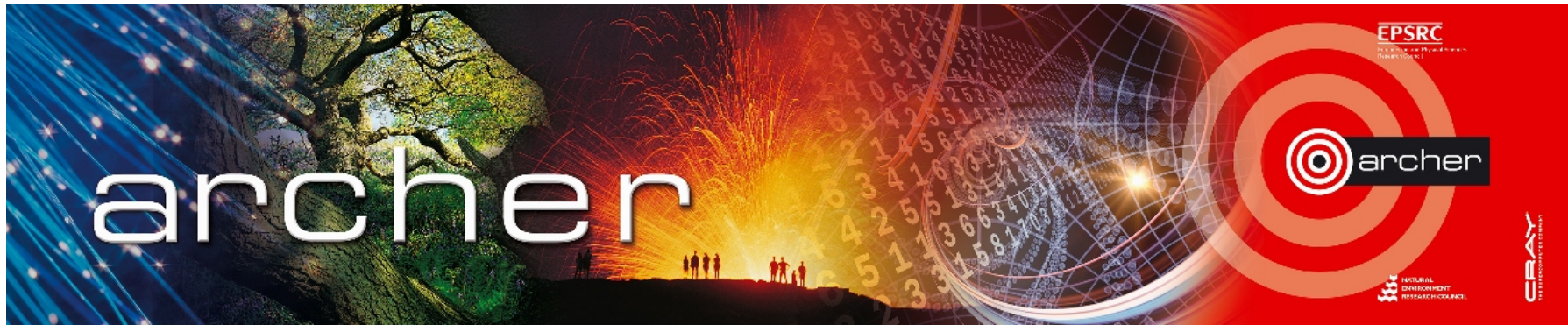
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- UK National Supercomputer Service, managed by EPSRC
 - housed, operated and supported by EPCC
 - hardware Supplied by Cray
- Training provided by the ARCHER Computational Science and Engineering (CSE) support team
 - 72 days per year at various locations round the UK
 - free to all academics



EPCCC's Advanced Computing Facility



What is EPCC?

- UK national supercomputer centre
 - founded in 1990 (originally Edinburgh Parallel Computing Centre)
 - a self-funding Institute at The University of Edinburgh
 - running national parallel systems since Cray T3D in 1994
 - around 65 full-time staff
 - a range of academic research and commercial projects
 - one-year postgraduate masters in HPC www.epcc.ed.ac.uk/msc/
 - new online accredited courses www.epcc.ed.ac.uk/online-courses/
- Get in contact if you want to collaborate
 - many staff are named RAs on research grants
 - joint research proposals
 - European project consortia



Key ARCHER Resources

- Upcoming courses
 - <http://www.archer.ac.uk/training/>
- Material from past courses
 - http://www.archer.ac.uk/training/past_courses.php
- Virtual tutorials (online)
 - <http://www.archer.ac.uk/training/virtual/>
- Documentation
 - <http://www.archer.ac.uk/documentation/>



Who is in charge of training at EPCC?

David Henty d.henty@epcc.ed.ac.uk

- Types of training provided by EPCC
 - MSc
 - PRACE Advanced Training Centre
 - ARCHER training programme
 - commercial training
 - ...
- Also do HPC research
 - new parallel programming models, accelerators, performance, ...



Other Resources

- Please fill in the feedback form!
 - <http://www.archer.ac.uk/training/feedback/>
- General enquiries about ARCHER go to the helpdesk
 - support@archer.ac.uk
- EPCC runs one-year taught postgraduate masters courses
 - ***MSc in HPC*** and ***MSc in HPC with Data Science***
 - awarded by the University of Edinburgh since 2001
 - scholarships available
 - <http://www.epcc.ed.ac.uk/msc/>



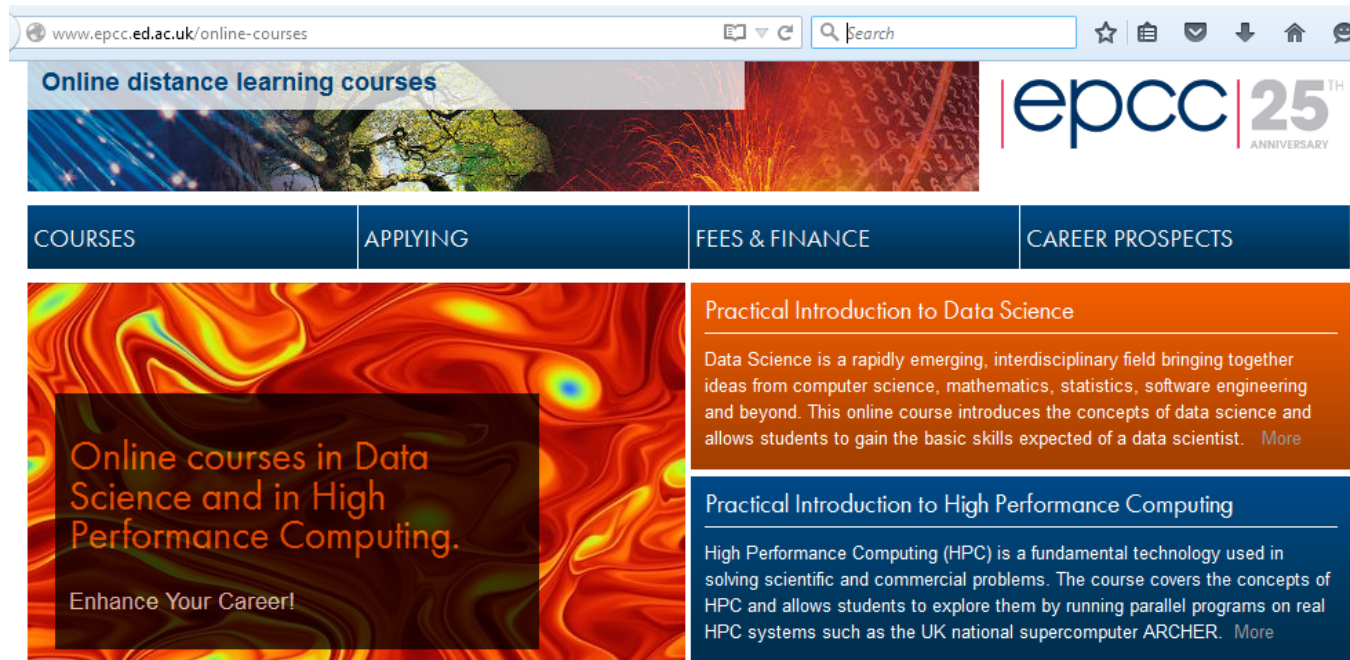
MSc in HPC / HPC with Data Science



- taught by EPCC staff (plus options in Informatics, Maths, Physics, ...)
- 12 taught courses (8 months); research dissertation (4 months)



Online accredited courses



- Run from January to May
 - entirely online: www.epcc.ed.ac.uk/online-courses/.
 - each course is 20 credits (c.f. a 180-credit MSc)



Access to ARCHER (during course)

- Guest accounts for duration of course
 - should only be used in the classroom
- Accounts will be closed immediately after the course
 - all files etc will be deleted
- Take copies of all your work before course ends!
- Course materials (slides, exercises etc) available from course web page
 - archived on ARCHER web pages for future reference



Access to ARCHER (during course)

- Connect to ARCHER via assigned guest account
- ssh -XY guest02@login.archer.ac.uk
- Password is &@HVV9qFY]xA



ARCHER Job Submission

- `#!/bin/bash --login`
- `#PBS -N test`
- `#PBS -q course1`
- `#PBS -l select=1`
- `#PBS -l walltime=00:30:00`
- `#PBS -A y07`
- `export PBS_O_WORKDIR=$(readlink -f $PBS_O_WORKDIR)`
- `cd $PBS_O_WORKDIR`
- `export OMP_NUM_THREADS=1`
- `aprun -n 24 ./testprog`



Access to ARCHER (longer term)

- Various ways to apply for time on ARCHER
 - see <http://www.archer.ac.uk/access/>
- All require justification of resources
 - Instant Access has the lowest barrier to entry
 - designed for exploratory work, e.g. in advance of a full application
- Or take the “ARCHER Driving Test”
 - www.archer.ac.uk/training/course-material/online/driving_test.php
 - successful completion allows you to apply for an account for 12 months with an allocation of around 80,000 core-hours
 - backed up by online training materials
 - www.archer.ac.uk/training/course-material/online/





PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

EPCC's PRACE Advanced Training Centre



PARTNERSHIP
FOR ADVANCED COMPUTING
IN EUROPE



Six PRACE Advanced Training Centres (PATCs)

Hubs for world-class HPC training for researchers in Europe

www.training.prace-ri.eu

- Barcelona Supercomputing Center (Spain)
- CINECA - Consorzio Interuniversitario (Italy)
- CSC - IT Center for Science Ltd (Finland)
- EPCC at the University of Edinburgh (UK)
- Gauss Centre for Supercomputing (Germany)
- Maison de la Simulation (France)

PRACE support

- PRACE also funds catering and other expenses for PATC courses
- Upcoming courses (at EPCC and throughout Europe)
 - www.archer.ac.uk/training/
 - www.training.prace-ri.eu
- Please fill in the course feedback form!
 - see www.archer.ac.uk/training/feedback/
 - opens on last day of course