ARCHER2: embedded CSE (eCSE)

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www.archer2.ac.uk

Reusing this material

Partners

Overview

- eCSE Overview

- Purpose and aims

- Examples of eCSE work

- Applying for a project

- Questions

What is eCSE funding for?

- Embedded CSE (eCSE) support funds software development to support the ARCHER2 user community

- Allows software to be developed in a sustainable manner to improve research on the ARCHER2 service

- Allows the employment of a Research Software Engineer (RSE) to carry out software development of codes leading to research within the EPSRC remit
  - Note that NERC codes are not eligible for this call

- ARCHER2 hardware is described on the ARCHER2 website
  - eCSE is for projects focussing on the CPU hardware rather than GPU

ARCHER eCSE Programme

- The ARCHER2 eCSE programme follows on from the very successful eCSE programme under ARCHER

- 14 FTEs of effort were available throughout most of 6-year ARCHER service

- 973 person months awarded across 100 projects
  - This included 32 extra person months above original commitment
  - Over 100 RSE involved across 26 institutions
  - See map opposite for locations

eCSE locations of RSEs
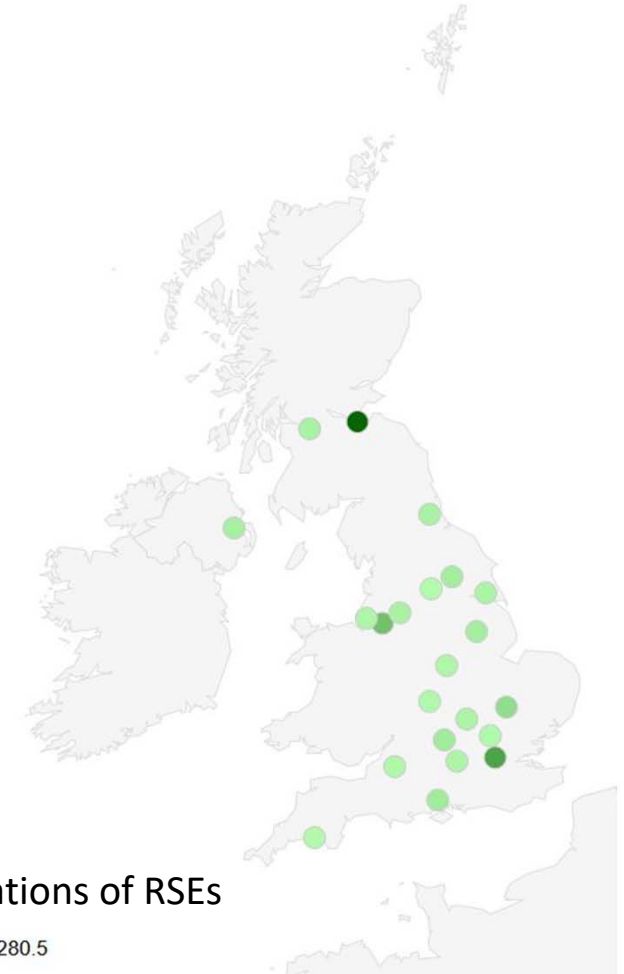
1.5   280.5

ARCHER eCSE Projects

- Lots of examples on ARCHER website
- See "Community" section of website
  - http://www.archer.ac.uk/community/eCSE/
  - Overview of completed projects shown
  - Links to more detailed technical report
- Also see ARCHER training section for webinars given from previous projects
  - http://www.archer.ac.uk/training/virtual/

Purpose and Aims

- Provide funding to the ARCHER2 user community to develop software in a sustainable manner for ARCHER2

- Sustain key codes for the UK computational science community

- Facilitate efficient use of ARCHER2 resources through enhanced code performance/functionality

- Core values: openness, independence, transparency, not-for-profit service that provides value for money to the HPC user community and beyond

eCSE Programme overview

- Funding
    - EPCC guarantees that an average of at least 12 FTEs per annum for eCSE projects will be provided
        - based on the 80% FEC costing model, or equivalent
    - Funding for eCSE projects can be requested for staff located at
        - institution of the PI
        - third party institution(s)
        - staff from the ARCHER2 centralised CSE support team
        - any combination of the above
    - Individual projects fund 3 to 12 person months in total across all technical staff
- The eCSE funding will be allocated using an open, fair and peer reviewed funding programme

eCSE Programme overview (contd.)

- There will be a regular series of calls for proposals, with three calls per year

- Not-for-Profit
  - Any residual funding will be used to provide additional eCSE staff months of effort

- Support and encourage early career researchers
  - Many RSEs are early career
  - Good opportunity to develop software development skills

- Observers
  - Early career researchers invited to panel meetings as observers
  - Good opportunity to see what reviewers are looking for

Example eCSE work

- Implementation of algorithmic improvements within an existing code in a portable manner
- Improving the scalability of software on higher core counts in a portable manner
- Improving a code to enhance sustainability and maintainability
- Improvements to code that allow new science to be carried out on ARCHER2
- Porting and optimising a code to run efficiently on ARCHER2
- Adding new functionalities to existing codes
- Code development to take a code from a Tier-2 (Regional) or local university cluster to ARCHER2

- Funding cannot be used for scientific research

Lightweight eCSE

- Recognise the need for smaller eCSE projects (up to 3 months)
  - Small improvement projects – larger than in-depth support but less than a full eCSE project
- Lighter weight process to apply for funding
- Funds staff embedded in research groups
- Will be available from the second call
- Seeking input from the panel around appropriate review procedure

Applying for an eCSE Project

First ARCHER2 eCSE Call

- The first call opened on 19th May 2020
- Technical Evaluation document must be submitted to ARCHER2 service desk by **16:00 16th June 2020**
- Final deadline for full proposals is **16:00 7th July 2020**
  - Late proposals will not be considered!
- Projects can start 2-6 months after call has closed
- See https://www.archer2.ac.uk/ecse/calls/ for details

First ARCHER2 eCSE Call on-line
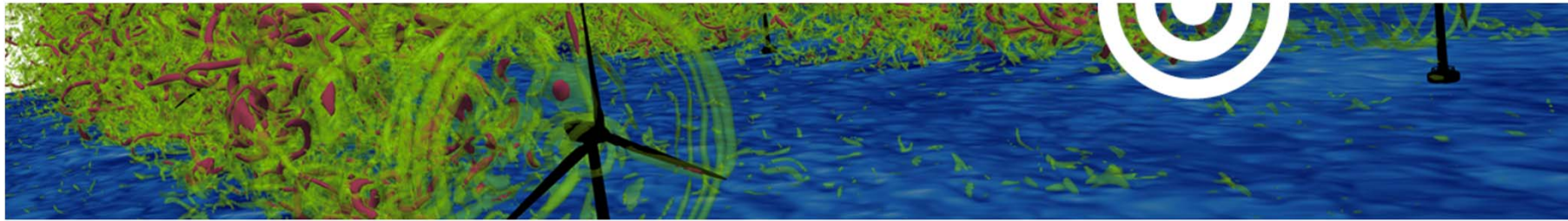
Applying for an eCSE Project

- Note that some things have changed since the ARCHER service
- Two stage application process
  - Technical evaluation document must be submitted to service desk by **16:00 16th June 2020**.
    - Completed evaluation will be sent back to you to include in final submission
  - Final deadline for full proposals submitted to the SAFE is then **16:00 7th July 2020**
    - Late proposals will not be considered!
- Any project team members must be invited to a proposal and have accepted the invitation via the SAFE before final submission
  - Otherwise they will not be considered part of the team
  - Allowable roles are PI, Co-I, technical staff, Contact, Member
  - Technical staff add their own CVs
  - Other team members provide track record and describe what they will bring to project
  - When inviting people, please use the email address the use in the SAFE
  - Note that you **cannot submit without technical staff** (or unnamed staff selected)

Costing

- Please provide 100% FEC for each member of technical staff
  - 80% FEC is then calculated and is what will be paid
  - Funding only includes technical staff
  - Should include direct and indirect costs but not additional costs (e.g. PI/Co-I costs)
- Travel is given separately from above
  - Can include project members traveling with UK to meet each other
  - Funds are limited – see guidance
  - Separate fund to allow travel for activities that showcase the outcome of eCSE work
- If your institution does not use FEC, please provide equivalent
  - If not using FEC recommend you get in touch beforehand to discuss
- Supporting documentation must be included
  - Your institution should be able to provide this via Worktribe or equivalent
- Costings do not need to be provided for ARCHER CSE staff or for unnamed staff
- Recommend you use named staff where possible
  - Ability of technical staff to complete the work is assessed
  - Considered together with PI/Co-I expertise

Beginning an eCSE Application

- Call page https://www.archer2.ac.uk/ecse/calls/ has links to
  - Technical evaluation form (MS Word)
  - Proposal template (MS Word)
  - Guidance document (PDF)
- To begin a proposal, go to ARCHER SAFE and enter Project Title, subject area and research area (i.e. remit)
  - https://www.archer.ac.uk/safe/
- Technical evaluation can then be started and should be submitted via the ARCHER2 service desk by 16:00 16th June 2020
- Technical evaluation form asks you to describe the main code(s) to be worked on during project in terms of
  - Performance and scaling of the code on ARCHER or equivalent
  - Sustainability and maintenance
  - Availability of code to ARCHER2 users at the end of the project
- Evaluation will be returned to you as PDF in good time for final submission

Next steps

- While technical evaluation is underway, you can
  - Invite team members
  - Get costing information
  - Complete proposal form
  - Fill out on-line form
  - Get letters of support
- An MS Word proposal template is provided with sections on
  - Project Objectives and success metrics
  - Project Overview, Technical Information and Workplan
  - Impact and Benefits
- This should be completed and attached as PDF to on-line form, along with PDF of completed technical evaluation when returned to you
- On-line form must then be completed with
  - All project members having accepted invitation
  - All relevant documents attached
  - Submitted by **16:00 7th July 2020**

eCSE – Submitting a proposal

Summary

- The first ARCHER2 eCSE call is open
- Technical Evaluation document must be submitted to ARCHER2 service desk by **16:00 16th June 2020** with final deadline for full proposals: **16:00 7th July 2020**
- Details of call
  - https://www.archer2.ac.uk/ecse/calls/
- There will be 3 eCSE calls per year for ARCHER2 software development
- Any questions please ask here or via the ARCHER2 service desk
  - support@archer2.ac.uk

Any Questions?

www.archer2.ac.uk