

# The DiRAC RSE Group

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# Overview

- Who are Research Software Engineers?
- What support can the DiRAC RSE Team offer?
- Different access routes

# Who are Research Software Engineers?

# The RSE Role

- Expertise in software engineering combined with an understanding of research
- Help researchers use software engineering best practice in their research software
  - Improve reproducibility, robustness and trust in research software
  - Work with researchers to improve the use of software in their research workflow
  - Equip researchers with skills required to use software effectively in their research
- Spans the full range of research software - from ad hoc scripting up to large research software codes used by hundreds of researchers

# Society of Research Software Engineering



- Professional society for RSEs and associated people
- Establish a research environment that recognises the vital role of software in research
- Increase software skills across everyone in research
- Promote collaboration between researchers and software experts
- Support the creation of an academic career path for RSEs

DiRAC RSE Team



# DiRAC RSE Team

- 5 FTE distributed across DiRAC hosting sites
  - Some sites provide RSE effort from larger pool of local RSEs
- Work is a mixture of different strands:
  - Large RSE projects approved by DiRAC RAC
  - Shorter RSE projects at DiRAC discretion
  - Strategic work to support DiRAC science and service
  - Assisting DiRAC users in porting, benchmarking and profiling research software on DiRAC
- Work matched to RSEs based on experience, technical skills and availability

# DiRAC RSE Support

- Large RSE projects approved by RAC
  - Develop and improve software on DiRAC resources
  - $\geq 3$  months RSE effort
- Shorter RSE projects at DiRAC discretion
  - High impact or timely projects
  - $< 3$  months RSE effort
- Technical RSE support
  - Porting, benchmarking, profiling etc.
  - Ad hoc by request to DiRAC Service Desk
- Strategic software work to support DiRAC
  - Usually assigned by DiRAC management rather than via users



# Large RSE Projects: Remit

Enable new features or improve the performance of the code. Examples include:

- 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 current and future DiRAC services
- Porting and optimising a code to run efficiently on current and future DiRAC services
- Adding new functionalities to existing codes
- Code development to take a code from a Tier-2 (Regional) or local university cluster to DiRAC level bringing new communities onto DiRAC

# Access routes

# Accessing RSE support

- Technical support for research software on DiRAC
  - Porting
  - Profiling and benchmarking
  - Contact DiRAC service desk: [dirac-support@epcc.ed.ac.uk](mailto:dirac-support@epcc.ed.ac.uk)
- Short projects (< 3 months effort and duration)
  - At DiRAC's discretion
  - Contact DiRAC service desk: [dirac-support@epcc.ed.ac.uk](mailto:dirac-support@epcc.ed.ac.uk)
- Longer projects (3-12 months effort and duration)
  - Apply via RAC call

# EC-funded collaborative research visits using HPC

- Travel and accommodation / living expenses - visits of up to 13 weeks
- From: any EU country or Associated State (limited space for other countries)
- To: Finland, Germany, Greece, Ireland, Italy, Netherlands, Spain or UK
- Access to world-class HPC systems, with training and support provided
- Integration into host department in relevant research field
- UK researchers can be **visitors** or **hosts**
- Easy application procedure – apply any time
- **Next closing dates: 17 September, 12 November**
- <http://www.hpc-europa.org/>
- Questions? [staff@hpc-europa.org](mailto:staff@hpc-europa.org)

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