Delivering public engagement

EPCC delivers a diverse programme of engagement activities to the general public, covering computational science, supercomputing and data science.

Why we do it

We aim to enthuse our young people in science, technology, engineering, and mathematics (STEM) and to demonstrate the value of supercomputing and data science to society.

EPCC operates a wide range of data facilities and high performance computing platforms. We look to explain the purpose of these facilities and show that this is a valuable use of public funds. We aim to enthuse our young people in STEM (science, technology, engineering and mathematics) and showcase the potential rewards a career in computational science can bring.

Spanning the UK

As the UK's National Supercomputing Centre we focus on activities that provide benefit across the UK. We regularly attend large science festivals covering different areas within the UK: recent events include London and the South East, the Midlands and north of England, and Scotland. These events allow us to engage with attendees from across all age groups and backgrounds.

For example, we regularly have a stand at the **Big Bang Fair** in Birmingham which, with over 20,000 children visiting, is the UK's largest celebration of STEM for schools. We also visit **New Scientist Live** in London, and the **Edinburgh Science Festival**, a celebration of the wonders of science, technology, engineering and mathematics.

This year we have been accepted as one of a small number of exhibitors at the **2026 Royal Society Summer Science Exhibition** (June 30–July 5, London), where we will showcase the value of supercomputing to the public. Our booth will also consider the environmental cost of running these services and how this cost is being addressed.

Students learning about supercomputing at the EPCC stand at the Big Bang Fair, Birmingham, UK.

Over the course of the week, attendees will take part in a series of our activities. These will include a fun, hands-on, hook the duck challenge introducing supercomputing and working in parallel, an interactive game allowing participants to utilise their own data centre to regenerate their own island while working to reduce the environmental cost of running their services, and VR to dive straight into scientific simulations created using ARCHER2.

Work experience

We offer **work placements** for school children, providing opportunities for them to experience the world of work and explore careers in computational science. These placements are actively focused on young people who are traditionally under-represented in higher education. We are also involved in the **STEM Learning Research Placements and Experiences Programme**, offering placements of two to three weeks where students work on individual research projects.

Highlighting the research enabled by supercomputers

Wee Archie is our suitcase-sized supercomputer. Through it, participants can use a parallel computer, learn about the type of science running on our supercomputers and understand more about performance and power.

The demos we run on Wee Archie are designed to introduce the sort of important science carried out on real supercomputers, helping to explain the value of these systems to society. For example, a recent demo allows participants to design their own wind-turbine blade, which helps to explain the air flow around these blades and how this impacts the power generated from a turbine.

Introducing programming

Our **logic puzzles** encourage participants to apply their problem-solving abilities and introduce the skills required to develop algorithms. From escaping zombies to solving Lego mazes, these activities are very popular, as is our binary keyring activity which helps to explain how binary numbers are used to store data on computers.

The EPCC outreach team and students with our binary bracelets activity, where beads are used to spell out a name in binary.

Wee Archie, EPCC's mini supercomputer.

Our two **micro:bit** activities introduce programming and AI models to attendees in a fun and accessible way. In our workshop students can learn about variables, loops and conditional statements, and communication, before trying their hand at their own virus simulation. For public events, attendees can train their own AI model to detect different movements via the micro:bit, such as waving, clapping or jumping on the spot.

Working in parallel

We have lots of different practical hands-on activities designed to introduce the concepts of parallelism. For example, our fast and furious parallel ball-sort activity has been very popular. We also use Spintronics sets to introduce the basics of logic gates, which underlie all computer processors.

Online resources

We provide a wealth of online resources targeted at both school children and lifelong learners.

In addition to **worksheets** and **games**, our **timeline of computing facilities** at EPCC provides an insight into how supercomputers have developed over the years. See our website for details and downloads:

https://discover.epcc.ed.ac.uk