Welcome to Fascination, a fortnightly behind-the-scenes look at our labs, facilities and funded research, and the breakthroughs they bring.

Transforming business with computing technology

A newly published report has demonstrated the positive impacts that the Hartree Centre is having on UK businesses. It estimates up to £27.5 million in commercial benefits to users, based on their first three years after working with us.

Home to some of the most advanced computing technologies and experts in the UK, the Hartree Centre is here to transform the competitiveness of UK industry through the use high performance computing, big data and cognitive technologies.

The show must go on, go on to Mercury

Scientists in the UK are celebrating after the successful launch of a spacecraft bound for Mercury. BepiColombo was made possible

Supporting The Ocean Cleanup

A space tech start-up company from the ESA BIC UK is supporting The Ocean Cleanup in its mission to rid our oceans of plastics. Autonaut’s wave-
thanks to UK science, and the probe is now bound for the least-explored planet in the solar system. The spacecraft will take seven years to reach Mercury and will have to survive extreme temperatures from +450 to -180 °C.

A propelled sea vessel is monitoring the project’s surrounding environment, including the waves, currents, water quality and weather conditions. It also listens out for dolphins and whales.

**Can computer scientists improve council services?**

A team of scientists will soon be using cutting-edge computer simulations to look at ways to see if Oxfordshire’s transport and healthcare infrastructures could run more efficiently. STFC’s Scientific Computing Department (SCD) has signed an agreement with Oxfordshire County Council to give the council access to SCD’s data analysis expertise. This means scientists will use advanced computer simulations to analyse the council’s data and find possible improvements to its traffic management planning and healthcare infrastructure.

**How science is helping to end world hunger**

One of the biggest challenges facing today’s society is making sure that there is a constant and reliable source of food for the seven billion people on the planet. To tackle this problem, STFC is looking at new, innovative ways to boost crop production, make farming more efficient and store food more sustainably.

**Don’t be afraid of the dark this Halloween**

This Halloween, get ready to visit the dark side – but there is no need to be afraid, as it is actually a global celebration of science. Dark Matter Day returns for a second year giving people all over the world the opportunity to celebrate Halloween in a different way and learn more about the mystery of dark matter.

**New telescope will knock your SOXS off**

A new telescope instrument, known as SOXS, is set to transform how astronomers look at exploding stars, dangerous asteroids and the sources of gravitational waves. STFC is funding a team of British scientists to design and build a vital part of the telescope.
Listen to the sounds of space online

Think there is no sound in space? Well, you're not alone - lots of people think space is a noiseless vacuum. But there are some sounds, and some very strange sounds at that. A team of physicists have compiled a free collection of films online, that allow you to listen to recordings made by satellites.

Three, two, one...lift off!

The out-of-this world National Satellite Test Facility (NSTF) art competition is now open, asking 5-11 year olds to use their imagination to draw a picture inspired by one of the following questions: What does a satellite look like? Where would you build a satellite? And who builds a satellite?