

Public Engagement Small Awards - successful applicants in round 2014A

Miss Lia Chappell

Cambridge Hands-On Science (CHaOS)

CHaOS Summer Roadshow 2014

Award £3,000

Cambridge Hands-On Science (CHaOS) is a student-run organisation of the University of Cambridge which seeks to inspire and enthuse children and families about science.

This award will help to support CHaOS's main event – the 2014 Summer Roadshow. CHaOS will travel to various locations around the country setting up interactive, hands-on experiments in schools and public venues to create an interactive 'travelling science museum'.

Mrs Diana Cross

Spacelink Learning Foundation

Classroom Hangouts with Spacelink Experts: to extend and develop outreach and communication between the space science and the education communities

Award £5,000

Google Hangouts will be used as a digital vehicle to facilitate communication and contact between schools and scientists from different areas to achieve the following aims:

- Digital bridging of the scientific and education communities
- Bringing school and scientific communities together and enabling the exchange of ideas and information between them
- Enthusing and educating young people about space and science by enabling them to talk directly scientists in a wide-range of space-related activities
- Inspiring young people to take STEM subjects throughout school and beyond
- Inspiring girls, in particular, to take STEM subjects and move into science and engineering careers
- Target primary schools as well as secondary schools in order to capture and embed interest during Key Stage 2

Dr Louise Dennis

University of Liverpool

Lego Rovers Evolution

Award £8,996

This project aims to: raise awareness of current research on autonomous systems in the UK (specifically that taking place at University of Liverpool in collaboration with world experts), inform secondary school pupils about the challenges involved in creating autonomous systems and to enthuse them about robotics, computer science, programming and engineering.

In order to achieve the aims, a hands-on activity aimed at KS 2-4 pupils will be developed. This will provide an on-going resource for use by the organisations involved in the project, it will also be available on the internet in a form suitable for use by schools, parents and anyone else with an appropriate Lego Mindstorms Robot, to download and use.

Mr Andy Franzkowiak
LAStheatre C.I.C

The Enlightenment Cafe: New Atlantis - Multidisciplinary theatre exploring the technology behind satellites and science of measuring Climate Change
Award £9,922

This project will create an exciting new piece of immersive, interactive theatre. Innovative new pieces of science communication across STEM subjects relating to water and climate change which can be re-used by collaborators after the show, will be produced. A series of short films of each STEM section will also be available after the show, allowing further audiences to be reached.

An associated outreach project for local schools will be developed, along with a downloadable teacher's pack aimed at Key Stage 4 & 5.

The project will encourage excitement in STEM areas relating to water and climate change, particularly in audiences new to science communication. It will also create greater understanding of climate change and how societies can work together to prepare for or prevent it.

The show will include a section on satellite technology and the study of the earth's atmosphere, bringing STFC-related science to new audiences.

Dr Pippa Goldschmidt
Freight Design (Scotland) Ltd

Curved words: stories of space, time and light
Award £9,250

This project will celebrate the 100th anniversary of Einstein's theory of general relativity with an innovative interdisciplinary project that brings together fiction writers and astrophysicists to produce an anthology of short stories inspired by general relativity, including its history, development and experimental tests.

The anthology will be used to inspire a wide group of people about general relativity; by using the medium of fiction rather than popular science the team will be engaging with non-traditional audiences.

The anthology will be launched at the Edinburgh International Science Festival. Events will be held at various literary and science festivals during 2015 and in specific events marking the 100th anniversary of general relativity.

Professor Monica Grady

Open University

Catch a Shooting Star

Award £9,581

The central aim of the project is to inspire and educate the general public about planetary and space science by creating an exhibit that places real meteorites at the centre of an authoritative and interactive audio-visual display.

A permanent interactive exhibit will be developed and installed at the Manchester Museum, comprising of:

- A tactile display with at least three real meteorites and an impact rock
- An interactive video installation consisting of a 23-inch touchscreen computer linked to a 60-inch monitor. This installation will make use of a series of simple interactive screens to inform visitors about a wide range of space-related topics
- A number of static displays covering meteorite spotting, local meteorite fall details, 'meteorite of the month' and meteorite hunting

A full working version of the interactive video installation will also be available on the internet, allowing visitors to the Manchester Museum to follow-up on their visit and also provide to a wider audience. A downloadable application for tablet computers will be available from the project website.

Dr Lydia Hallis

University of Glasgow

Microscopy Summer School for GCSE Students

Award £1,630

The University of Glasgow will organise week-long meteorites microscopy schools for five GCSE-level students for the October half-term holidays in 2014 and 2015.

The students will be drawn from schools in underprivileged areas in Glasgow and given experience of laboratory work, data processing and scientific writing.

The students will be provided with the opportunity to produce and present results.

Mr Mark Hollander
Unlimited Theatre

Unlimited Space Agency - Research & Development
Award £5,520

This is one of the projects that the Unlimited Space Agency is planning to coincide with British astronaut Tim Peake's mission to the International Space Station.

A new, responsive website telling the story of Tim Peake's role as a 'scientist' as he trains and the flies to the ISS will be created. The site will be regularly updated with news stories, photographs and videos of Tim's training. The website will be directly linked to a safe and secure social networking platform for schools that have previously worked with the Unlimited Space Agency.

The Unlimited Space Agency will conduct research with UK teachers, schools and students that will directly inform the design of future, larger-scale, projects.

Professor Hilary Kennedy
Bangor University

Crystals within crystals: The story of sea ice
Award £6,292

This project takes the form of 48 workshops that will be delivered to secondary school students in years 9, 10 and 11. The team will include two of STFC's key audiences, under-performing schools and groups in geographically remote areas in the workshops programme.

The 'Crystals within crystals; The story of sea ice' workshop will provide students with the chance to analyse samples of frozen freshwater and frozen seawater to observe differences in their properties and have access to samples of the crystals that give rise to the differences to observe the sensitivity of the crystals to changes in temperature.

The workshop will use the story of sea ice as an analogue to show how X-rays can be used to delve into the internal structures and to detect elusive crystals that can't be mechanically separated from the ice without destroying them.

Professor Andrew Lawrence
University of Edinburgh

Oculus Rift Planetarium
Award £9,150

This is a pilot project that aims to lay the foundations for a valuable new tool in astronomy public engagement; the combination of planetarium software and a virtual reality headset

that would give each individual user the freedom to look around under a simulated night sky without the need for a planetarium or clear skies.

The team will adapt virtual planetarium software, Stellarium, to make use of the new Oculus Rift virtual reality headset.

Miss Maggie Lieu

University of Birmingham

Astronomy in The City

Award £1,852

Astronomy in The City is a free event held for the general public to provide ease of access to astronomy in the West Midlands. Events will be held between October 2014 and March 2015, in collaboration with various groups, such as local astronomical societies and schools.

The events incorporate various levels of materials to guide the public through the different areas of astronomy. Each event includes a series of talks on observational astronomy, research topics at the University of Birmingham School of Physics and Astronomy and topical science.

Events will also include Q&A sessions and have experts on hand throughout to help attendees with any questions about astronomy, space science, astrophysics and anything else about the research work carried out at the university.

Dr David McGloin

University of Dundee

Printing the Moon

Award £9,968

The project will deliver a workshop to schools based around the concepts of space, data and 3D printing. The goal is for school pupils to print parts of the moon and then use physical objects to make simple measurements of lunar dimensions, akin to a standard first-year university experiment using shadow data from lunar photographs.

The workshop will explore a range of topics from the lunar history, exploration, surveying and the role of satellites; at the core will be the use of real satellite data from NASA and exploring how this can be manipulated into printable form.

The project will deepen students understanding of space and space technology and bring them into contact with disruptive technology, 3D printing, that will give new skills and experiences that will be beneficial across the school curriculum.

Ms Rosemary Richards
South Kesteven District Council

CERN LIVE event at the Gravity Fields Festival
Award £10,000

The CERN LIVE event at the Gravity Fields Festival will bring the science and work at CERN LHC, and knowledge about related science activity across the world, to a science and arts festival in Lincolnshire to allow schools and general/family audiences to learn more about CERN and its associated science, through a mix of display, audio visual exhibits and through the programming of speakers related to the topic.

The Gravity Fields Festival celebrates Sir Isaac Newton's close relationship with the area of south Lincolnshire and the town of Grantham through a biennial festival which was staged for the first time in 2012 with an overall audience of 37,000.

The festival is aspirational in nature and designed to appeal to a broad cross section of the general public. The festival's aims include bringing an understanding of the physical sciences to the general population of the area and to visitors from beyond the area.

The proposed event will run for two of the five days of the festival, Friday 26th and Saturday 27th September. The event will take place at one of the main festival venues in the town centre of Grantham.

The aim for all audiences is:

- To foster better understanding of the CERN LHC facility, who works there, how it works and the international partnerships
- To understand the areas of science studied at CERN LHC and its outcomes and potential future outcomes
- To gain a greater understanding of the applications of particle physics both at CERN and in facilities worldwide
- And for young people in particular:-
- To inspire young people to work in science and particularly interest them in physics
- To inspire young people from the area to believe in their potential to South Kesteven District Council

Mr David Waterman
Alfriston School

**Building self-esteem with regard to learning in science (physics) within a special school
and for underachievers in a mainstream setting**
Award £5,000

Alfriston School is a secondary age school catering for girls with a wide range of special educational needs and disabilities.

This project aims to build self-esteem of the pupils at Alfriston School with regard to learning in science through bringing role models and inspiration from the wider community and establishing role models and inspiration within the school.

The project aims to encourage students to develop the confidence to go on to study science or engineering related subjects upon leaving school.