

Public Engagement Small Awards - successful applicants in round 2014B

Dr Ciaran Beggan

NERC British Geological Survey

Measuring the effects of Space Weather in the UK using a network of school magnetometers

Award £9,998

This project involves building a network of magnetic field sensors to be deployed in schools cross the UK, as an addition to the existing AuroraWatch network at the University of Lancaster. It will also help to expand citizen science capability for space weather researchers.

Students in the 14 to 18 year age range will be encouraged to look at how instruments can be used to collect data and integrate it together to give a wider understanding of physical phenomena.

One of the drivers behind the project is the recognition of society's increasing reliance on space-based technologies, such as GPS and satellite communications, and the exposure to risks from Space Weather.

Dr Lynne Bianchi

University of Manchester

Organised Chaos - inspiring the next generation of scientists and engineers by working scientifically with experts

Award £10,000

Using the context of contemporary science research, 'Organised Chaos' will focus primary pupils' attention on how real science takes place.

The project will partner primary and secondary school teachers with scientists working at and with Diamond Light Source laboratory and the Interdisciplinary Centre for Ancient Life (ICAL) to collaboratively explore their respective areas of work.

A model of practice for working scientifically that emulates how scientists work will be identified. This will lead to the development of a resource for schools (age ranges 9 to 12 years) that will showcase the methods and practices of scientists.

Dr Thomas Cocolios

University of Manchester

How to handle a radioactive nucleus: ISOLDE 50th anniversary robot competition

Award: £7,400

The team will create a general inspirational package for outreach events aimed at promoting nuclear physics research to schools in the Manchester area.

Ten undergraduate 'Science Ambassadors' will be trained to deliver a schools workshop based around nuclear physics and ISOLDE. The workshop will introduce the LEGO Mindstorms robotics kit which will be used in the competition part of the programme.

Each of the participating schools will be provided with a Mindstorms kit and assigned a robotics 'coach'. Teams of students will design and build a programmable robot which will go to a final robotics competition judged by a panel comprising a LEGO robotics representative, a nuclear physicist and a CERN-ISOLDE representative.

Dr Joanne Elise Cole

Brunel University

Pilot for The Elusive Ms Higgs: a detective fiction of elementary truths

Award £7,117

This pilot project is designed to explore how the narrative and investigative drive of a detective drama can be used to engage young people with scientific method; more specifically, the techniques associated with the discovery of the Higgs boson. Students will be immersed in the world of fiction where they are the protagonists making decisions and problem solving in order to progress through the narrative and 'solve' the mystery at the heart of the experience.

Dr Stephen Lowry

University of Kent

Bringing small solar system bodies into the classroom - A Rosetta teacher conference in Kent

Award £8,434

This overriding aim of this project is to provide physics teachers in the UK with a resource pack to enable the inclusion of real space science in their day to day lessons. The project will initially deliver an update event in the form of a one day conference for local teachers and trainee teachers in Kent. The conference will deliver new scientific concepts and knowledge to teachers whilst enhancing their understanding of some basic physics concepts through the use of exciting and relevant talks and workshops based on the Centre for Astronomy and Planetary Sciences research into small solar system bodies.

Materials produced for the event will be refined based on the feedback received before being made available to teachers across the UK via the National STEM e-Library.

Professor Peter McOwan

Queen Mary, University of London

Science on Stage - Illuminating Science Education Festival 2015

Award £9,775

Science on Stage Europe is a network of, and for, science and technology teachers of all school levels. It provides a European platform for the exchange of teaching ideas and highlights the importance of science and technology at school and amongst the public.

The contribution awarded by STFC will enable 15 teachers to attend the 2015 festival as full delegates; teachers whose projects most closely match STFC areas of interest will be selected. These teachers will then have the opportunity to network as a group, with the potential to produce resources targeting STFC research areas.

Miss Elizabeth Roche

National Maritime Museum

Rosetta Digital Outreach Project

Award £9,500

Two brand new videos will be created and added to the NMM's existing suite of digital resources. They will promote the European Space Agency's Rosetta mission and show the involvement of STFC-funded scientists in the project.

The videos will each be approximately two minutes long. The Rosetta video will aim to engage the public, particularly secondary school students, with the cutting edge science behind the mission and some of the scientists involved.

The other video will be concerned with the background science of asteroids, comets and their differences.

Both videos will be widely available.

Ms Lesley Silvera

North Pennines AONB Partnership

Discovering Northern Dark Skies

Award £9,330

This project will build upon the previous work of the organisation in association with STFC's Dark Sky Discovery Site programme.

Twelve space and astronomy events will be held – attracting public audiences from Northumberland, Durham and Cumbria.

Four schools events will students and young people will learn about dark skies and the objects that they can see. They will also learn about recent developments in optics and computing. These events will include topics such as; the language of astronomy, the rudiments of our solar system, why there is a dark side of the moon and colours in space.

The team will work with schools to establish a safe, accessible network of Dark Sky Discovery Sites that schools can use independently as a teaching resource. Two teacher training and familiarisation visits to Dark Sky Discovery Sites in the North Pennines will also be arranged.

Ms Samantha Sportun

Manchester Museum

Bringing research to life: Recreating a 3D stone Archaeopteryx fossil as a digital interactive; where cutting edge science can be released through touch

Award £9,780

This award will fund a portable, touch sensitive stone replica of the Thermopolis Archaeopteryx fossil. The replica will be used at public events at the museum, placed on the museum gallery and loaned out for events.

It will be a resource for Museum Big Saturdays events and used at events such as the Manchester Science Festival 2015.

The museum's education team and curators will use it during widening participation sessions with secondary schools.

Dr Sandra Voss

The Observatory Science Centre

A Broad Spectrum of Light: Celebrations for IYL2015

Award £9,993

The project will deliver a number of exhibitions, workshops, shows and other events that relate to the International Year of Light 2015.

The project's key aims are:

- To support science education by looking at light from the revolutionary discoveries of Sir Isaac Newton to real life applications of the electromagnetic spectrum and how it shapes modern day lives
- Increase awareness of current research; establishing links with research facilities will assist in the communication of new knowledge, allowing the wider audience to gain an insight into areas of science they may otherwise be unaware of
- Explain, to a wide audience, the relationship between light and sound through linking images and sound signals
- Celebrate International Year of Light and Light Based Technologies by engaging a wide-ranging audience with the exciting 'science of light' through physics, chemistry, biology and astronomy

Dr Robyn Wheldon-Williams

National Eisteddfod of Wales

X Rays, Crystals and Dinosaurs - Exhibition at the National Eisteddfod of Wales 2015

Award £10,000

This award will support a themed exhibition and activities around the science and technology of the Diamond Light Source as major part of the 2015 National Eisteddfod, the premier cultural festival of Wales, to coincide with the International Year of Light 2015.

The primary objectives of the Eisteddfod Science and Technology programme are to:

- Promote Public Understanding of Science; provide innovative opportunities for visitors to become better informed about various aspects of STEM subjects
- Provide STFC facilities and Welsh 'science producing' bodies, such as universities, with an opportunity to showcase their achievements locally, regionally and globally
- Create interest and excitement in STEM subjects, leading to improved attainment in science at Key Stages 3 to 5 and motivated students
- Stimulate young people to consider careers in STEM subjects