

Projects funded in 2020

For the fourth year we are supporting researchers to run exciting and innovative public engagement projects. Projects last up to two years and have been awarded up to £10,000. You can see what we funded in [2017](#), [2018](#) and [2019](#), and [get in touch](#) with us if you have any questions about public engagement or any of the projects.

Projects we've funded

[Dr Adriana Paluszny Rodriguez](#)

[Dr Jacqueline Rosette](#)

[Dr Nicola Hemmings](#)

[Dr Patricia Sanchez Baracaldo](#)

[Dr Rucha Karnik](#)

[Professor Thomas Richards](#)

Discovering Science at Home

Dr Adriana Paluszny Rodriguez, University Research Fellow, Imperial College London

Dr Paluszny and her team will develop activity resources for primary school children. The project aims to provide access to high-quality science-based printed materials to children for free. The team will aim to create enthusiasm around the subjects of Material Science, Earth Science, Computer Science and Mathematics while promoting interest in the green and sustainable future of our planet.



The project will create two distinct types of materials to distribute to children: a poster about the future green Earth and its technologies, and a science-at-home booklet. The materials seek to

inspire creativity, spark curiosity, and create enjoyment, discussion and conversation opportunities for families, hopefully placing a seed that may later encourage some of these children to pursue careers in science.

The materials will be focused on understanding the technologies we need for the green and sustainable future of our planet, and why we should strive to learn about how science, and maths can help to protect our environment. Dr Paluszny and her team will create these materials, as well as print and distribute them.

Coastal and Waterways Litter Monitoring and Reduction

Dr Jacqueline Rosette, University Research Fellow, University of Swansea

Led by Dr Jacqueline Rosette, Royal Society University Research Fellow at Swansea University, this project will demonstrate the use of remote sensing for environmental applications and monitoring. This will be combined with initiatives to collect discarded and washed-up items from nearby beaches and waterways, and to raise awareness of the impacts and longevity of litter, particularly single use plastics.

 Litter on a beach

Composition from items found on the beach near Swansea, with fishing wire and glass 'waves', a bottle top floating 'tyre', and the red bottle cap 'boat steering wheel' reading "Please Recycle Me".

This project is in partnership with [Swansea Lions Club](#) and with Dr Kate Evans' [Annibendod](#).

The project complements a Welsh Government Circular Economy capital fund grant of which Dr Rosette is also PI, and aims to encourage people to reduce, reuse and recycle. The collaboration also supports the 2022 Challenge set to Lions Clubs within the British Isles to collect at least 2022 bags of litter by the start of the Commonwealth Games on 26 July next year.

Together we aim to inspire people to take pride and action to clean and protect our environment, the access and benefits of which the ongoing pandemic has led us to appreciate even more.

For Every Bird a Nest

Dr Nicola Hemmings, Dorothy Hodgkin Fellow, University of Sheffield

Dr Nicola Hemmings will work with visual artists and poets to stimulate public engagement with the challenges facing UK breeding birds.

“My research investigates one of the most common problems for threatened bird species – reproductive failure. The nests and eggs of many birds are directly or indirectly affected by human activity, with important consequences for population persistence. As the lives of birds become increasingly entwined with those of people, there is a growing need for us to see the world from a bird’s perspective. The imaginative arts provide a conduit to the required shifts in understanding, feeling, and ultimately, action.”



Dr Hemmings and the team will lead inside and outside creative arts workshops with local communities on the North-East Lincolnshire coast, an area where several breeding bird populations have declined dramatically in recent years. Through creative art, participants will explore the adaptive function of bird eggs, nests, and parental behaviour, and how these may be impacted by environmental change.

Transforming the Earth

Dr Patricia Sanchez-Baracaldo, University Research Fellow,
University of Bristol

Dr Sánchez-Baracaldo and her team will deliver online panel discussions about how photosynthesis has transformed life on Earth.

Understanding how our planet became habitable for complex organisms is one of the most fundamental questions in science. I am keen to make some of the most recent findings in this exciting area of research accessible to the general public.’

‘Through the Arts, I would like to raise awareness about how the Earth has gone through major transformations; this will put in perspective how our modern biosphere and Earth System have been the result of billions of years of evolution and the interplay between biology and geological processes.’



Image: ‘Our little planet’ by Jenny Urquhart.

‘We will highlight four broad stages in Earth history, all of which have had distinctive impacts at the global planetary level. The Earth has had different levels of habitability; to an outsider, our planet would have looked radically different in terms of atmosphere and biosphere composition at different times in history.’

‘Sci-Seedlets’- Plant science education-through-play

Dr Rucha Karnik, University Research Fellow, University of Glasgow

From the creators of ‘StomaToys’ (2018-20) the project ‘Sci-Seedlets’ will develop resources for plant science education-through-play. The Sci-seedlets team is an eclectic mix of plant scientists from the University of Glasgow specialising in plant cell-biology, plant physiology cell and engineering, computer scientists specialising in human-computer-interactions from University of Lancaster as well as non-scientist members-of-public.



Sci-Seedlets are informed by Royal Society-funded research in Dr Karnik’s laboratory to address the overarching question, 'How do plants grow?' This research contributes to fundamental understanding of plant physiology and feeds into future crop-improvement strategies for global food security. Sci-seedlets formats are planned to integrate diversity to reach users from a variety of age-groups, especially school children 3-15 years and also adult non-scientist audiences.

Sci-seedlets will provide easy-to-access web-based educational tools that are accessible from home and for teachers to help nurture wider interest in plant sciences and STEM research by giving a feel of the scientific process. Delivering focused experiences as 'tasters' into plant research, Sci-seedlets will make the public audiences aware of the importance of work that plant scientists do in the community.

Tadpole Doctor

Professor Thomas Richards, University Research Fellow, University of Oxford

Tom Richards will work with schools, frog breeders, wildlife conservation trusts, and zoos and zoological gardens to monitor the distribution and spread of a newly identified infectious disease of frogs.

“Frogs and other amphibians are some of the most endangered animals on Earth today. One key factor threatening frogs is the spread of infectious diseases. We need to find out where

and how infectious diseases are spreading across the UK”.

Professor Richards will work with a wide team to identify breeding colonies of frogs across the UK, collect water and identify key data points allowing us to monitor for this infectious agent. The team will stage web tools and online educational engagement to build a diverse research community of citizen scientists. Together this team will look for evidence of the spread of a newly identified infection of tadpoles; this evidence will then be used to help plan conservation strategies.



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