![University of Reading logo]

RESEARCH ENGAGEMENT AND IMPACT AWARDS 2022

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We are delighted to once again be holding our Research Engagement and Impact Awards, giving us the opportunity to celebrate the excellent research taking place across the University that addresses real world problems and changes the world around us.

The Awards were postponed in 2021 due to the disruption caused by the COVID-19 pandemic and subsequent lockdowns, which had meant that researchers had to find new, innovative and largely online ways of generating engagement and impact. This is reflected in many of the submissions we received this year.

We received 28 entries from across a wide spectrum of our research and from colleagues at different stages of their careers. It was inspiring to see that almost all of them were collaborative projects, often involving cross-disciplinary teams and external partners, and a quarter of the applications were from Early Career Researchers.

It has never been more important than now for us to find new ways to work with our neighbours for mutual benefit and we were delighted to see that half of applications involved individuals and organisations local to Reading. Our shortlist includes projects that have made a difference through screenings and workshops that inspire, participatory research that empowers, and projects that are informing changes in policy and practice.

Each of the shortlisted projects described here addresses a significant challenge and engages individuals, organisations or communities to bring about positive change; from using cultural heritage to empower women and alleviate poverty in Jordan, to changing perceptions of disability through film.

We congratulate every one of the researchers who applied for the awards this year and hope that the projects described here inspire you to find out more about our research and the ways we work together to ensure research brings benefits to all.

P. Yaqoob   *Dominik Zaum*

**Professor Parveen Yaqoob
and Professor Dominik Zaum
Pro-Vice-Chancellors for Research
and Innovation**

SHORTLISTED PROJECTS

CHANGING PERCEPTIONS OF DISABILITY THROUGH FILM

Jenny Chamarette, Rachel Garfield, Henry Miller

A project designed to bring the work of experimental filmmaker Stephen Dwoskin to new audiences online is changing attitudes towards disability, accessibility, and art.

With cinemas and galleries across the UK forced to close during successive COVID-19 lockdowns, many have adapted to new models of digital engagement. A project led by Dr Jenny Chamarette in Reading's School of Art has demonstrated the powerful opportunity this presents for establishing accessibility at the core of arts provision.

As part of the wider Dwoskin Project, Dr Chamarette, Professor Rachel Garfield and Dr Henry Miller used material and expertise from Reading's Stephen Dwoskin Archive to curate a series of accessible online film screenings and discussion events using LUX's online platform and publicity, featuring the work of disabled Jewish-American experimental artist and filmmaker, Stephen Dwoskin.

The events brought together disabled artists and policymakers to discuss disability, accessibility, and inclusion through screenings of three of Dwoskin's films, each chosen to highlight Dwoskin's complex relationships with disability, accessibility, and sexuality.

To facilitate engagement and participation by disabled audiences and creative practitioners, closed captions were produced for each of the films, while the panel discussions included live captioning and BSL interpretation by experts specialising in arts events. The series attracted a large, international and diverse audience from both academia and industry, with most respondents reporting that the events had changed their attitudes towards disability.

"This series has created a disability-aware approach (with a signer present) which surely should be the norm and not the exception."

Participant, Discussion event

Partners

Birkbeck Institute for the Moving Image

The British Film Institute

LUX Artists' Moving Image Agency

Funders

Arts and Humanities Research Council

University of Reading (Centre for Film Aesthetics and Cultures, Arts Committee and Diversity and Inclusion Initiatives Fund)

Judges' comment

"This is an excellent project in all respects. Highly creative and collaborative, it used a variety of engagement methods and made good use of opportunities afforded by lockdown to raise the profile of Reading's Dwoskin archive."

Dwoskin, Disability And… sexuality, illness, intoxication: Intoxicated By My Illness

starts to cycle through the medical gaze, the male gaze

DISCOVERING LAND FOR HOUSING MIGRANT WORKERS IN KOCHI, INDIA

Angelique Chettiparamb, Anil Ravindranathan (SCMS College of Architecture)**, Rajan Chedambath** (Centre for Heritage, Environment and Development)**, Benoy Peter** (Centre for Migration and Inclusive Development)

By working with public policymakers in the Indian city of Kochi, researchers at Reading are improving access to affordable housing for the city's migrant workers.

Kochi is the most densely populated city in the Kerala region of India. High demand for affordable housing means that workers who migrate to the city from other parts of India are often forced to live in unhygienic and unsafe conditions.

A project led by Professor Angelique Chettiparamb has resulted in an evidence-based strategic action plan accompanied by an urban vacant land inventory with the potential to improve the lives of thousands of people.

Chettiparamb and her team developed partnerships with academics and organisations at international, national and local levels, to access state of the art knowledge, and secure contacts required for rapid field studies to evaluate current issues in providing adequate rental housing for migrants in the city.

The strategic action plan to deliver rental housing for internal migrants in Kochi was formally adopted by the Local Government Council. Further partnerships led to the first ever rapid urban vacant land inventory carried out in a city of Kerala incorporating local academic and professional institutions.

This work has attracted interest of national and international development agencies with a view to formulating broader, city-wide planning strategies.

"The new policy, included in the 2021-22 budget, means we are now ready to provide safe accommodation at affordable rentals for migrant workers and pavement dwellers."

M Anilkumar, Mayor, Kochi Municipal Corporation

External partners

Kochi Municipal Corporation

The Centre for Heritage, Environment and Development (C-HED)

The Centre for Migration and Inclusive Development (CMID)

SCMS College of Architecture

Funders

Research England

Judges' comment

"A really neat and well-organised project that has been very successful as an engagement, planning and strategy project, influencing and engaging with policymakers and professionals who 'own' the problem whilst also uniquely building skills capacity for more than 750 local students in Kochi city."

WE MAKE FILM: FILMMAKING, CREATIVITY AND DISABILITY IN URBAN INDIA

Shweta Ghosh

An 80-minute feature documentary produced by Reading's Dr Shweta Ghosh as part of her practice-led research is being used to highlight the urgent need for more inclusive and accessible filmmaking practices in India and beyond.

Through a series of screenings and discussions of her feature-length documentary We Make Film, Ghosh is informing important conversations about creativity and disability, including the need for more accessible working practices in the film industry of contemporary urban India.

In creating the film, Ghosh employed a unique interview-workshop method, working with disabled filmmakers as both research crew and participants to explore their experiences of creative expression while actively experimenting with more inclusive filmmaking practices.

This approach, together with subsequent engagement by industry professionals and wider audiences with the themes and issues explored in the film, has led to the development of new networks and opportunities for disabled filmmakers in India and connected creative perspectives across India and UK.

Since 2021, the film has been shown at various international film festivals and events and has received awards including Best Accessible/Inclusive Film at the Together! 2021 Disability Film Festival. It was also selected for Good Pitch Local Deccan (India), a documentary impact programme run by Doc Society UK and Indian Documentary Foundation.

The inclusion of the film in this programme led directly to the introduction by Good Pitch Local Deccan (India) of measures to improve the accessibility of their events and accompanying video material, including audio description, sign language interpretation, and live captioning.

"During production, Dr Ghosh initiated several conversations on accessibility, creating a cultural shift in the way we visualised a Good Pitch event. At the forum, the film was able to facilitate constructive dialogue on the viability of allyship and collaborative filmmaking to support disabled creatives."

Good Pitch Local Deccan team

Funders

University of Reading

Crowdfunding

Judges' comment

"This comes across as an excellent engagement and impact project, all the more notable as it is led by an early career researcher. With a clear thread between the research, the activity and the outputs, there is clearly more impact to come."

RAINFALL RESCUE: CROWDSOURCING FOR IMPROVED CLIMATE DATA

Ed Hawkins & the Rainfall Rescue team

University of Reading researchers are harnessing the power of the public to put historical UK weather data back into the hands of the climate scientists who need it.

With extreme weather events becoming increasingly common as a result of climate change, it is more important than ever to understand where and when floods and droughts will occur, especially in places such as the UK, where rainfall is notoriously variable from year to year.

But until recently, UK rainfall data from before 1960 was largely inaccessible, with much of it stored within 66,000 sheets of hand-written paper in the National Meteorological Archive.

This data has now been given a new lease of life through an online citizen science project, led by Professor Ed Hawkins in collaboration with the Met Office, in which members of the public were invited to transcribe measurements from scans of the archived records.

Over the course of 16 days, 16,000 volunteers transcribed 66,000 pages containing 5.28 million numbers. With each of these numbers transcribed four times for quality control, a total of 21 million observations were recorded by the volunteers in just over two weeks.

This extraordinary response enabled Hawkins and his team to produce a comprehensive digital record of UK-wide rainfall variations dating back to 1836, developing invaluable insight into how the UK's climate is changing and significantly expanding the Met Office datasets available for use by scientists around the world.

"Not only has all this work been achieved incredibly quickly, it has also broken the definition of what makes a record archival. In their new transcribed form this goldmine of data is now back in the hands of the scientists who need it."

Catherine Ross, Met Office archivist

External partners

National Meteorological Archive

Met Office National Climate Information Centre

Funders

National Centre for Atmospheric Science

Judges' comment

"This is a high-profile and successful project that builds on previous work and has clearly delivered through creative use of engaging a large number of volunteers during lockdown, enabling extension and revision of our understanding of recent past weather data."

REDUCING MISSED OUTPATIENT APPOINTMENTS AND HEALTH INEQUALITIES THROUGH AI

Weizi (Vicky) Li, Nicholas Berin Chan, Muhammad Dashtban and Eghosa Bazuaye, Toluwanimi Akinola and Kiki Kontra (Royal Berkshire Hospital)

An artificial intelligence (AI) system developed by a team of Reading researchers is being used by the NHS to tackle health inequalities by reducing the number of missed hospital appointments.

Around 7% of all outpatient appointments at Royal Berkshire NHS Foundation Trust hospital (RBH) are missed by patients every year. With each one costing the NHS around £100, both the clinical and the financial consequences of these missed appointments are significant.

A team led by Dr Weizi (Vicky) Li from the Informatics Research Centre at the University of Reading and Eghosa Bazuaye from the RBH Informatics Department have co-developed a tool that has been successfully used by RBH to reduce missed outpatient appointments by 40%.

The tool uses AI to predict the probability of a patient not attending an appointment, based on factors such as travel distance, level of deprivation, and attendance history, before presenting tailored suggestions to hospital staff for interventions to encourage attendance.

Following an initial pilot, which achieved a 30% reduction in missed appointments at RBH by high-risk patients across three departments, improvements were made to the way that risk data was presented to staff. A subsequent pilot using the improved model was conducted in 2021 and resulted in a 40% reduction in patient groups with high risks of missing appointments and the tool has been implemented across all departments.

The project has attracted significant interest from the healthcare sector, including an invitation from NHS England and NHS Improvement to present proposals to scale up the application for use in other hospitals.

"Not only are we able to help identify high-risk DNA (Did Not Attend) patients but with the right intervention we are able to reduce our rate of missed appointments, helping to improve clinical and operational outcomes for both the hospital and our patients."

Eghosa Bazuaye, Associate Director of Informatics, Royal Berkshire Hospital

External partners

Royal Berkshire NHS Foundation Trust

Funders

Economic and Social Research Council

University of Reading

Royal Berkshire NHS Foundation Trust

Judges' comment
"This is an impressive and well-documented project, which works across disciplines to achieve effective outcomes for both the NHS trust and the patients concerned and potentially for wider NHS savings."

UNCOVERING HIDDEN STORIES FROM OXFORD ROAD

Sally Lloyd-Evans, Alice Mpofu-Coles, Robyn Woronka, Toby Barlow

Reading researchers are working with local communities and artists to reveal and celebrate the heritage of one of the town's most diverse and multicultural streets.

With more than 70 languages spoken by its residents, Oxford Road in Reading has been fondly described as being 'like the United Nations'. Now the rich and vibrant cultural history of this unique urban space is being celebrated and preserved through a participatory community storytelling project involving a team of student researchers from Reading.

Led by Professor Sally Lloyd-Evans as part of Historic England's High Street Heritage Action Zone programme, the team behind the Oxford Road Project: Reimagining the High Street Through Your Stories used participatory action research methods to explore the lived experiences of the people and communities who live, work and play on Oxford Road.

Through a series of structured interviews, Alice Mpofu-Coles, Robyn Woronka and Toby Barlow, gathered information about the social history of the area along with photographs, memories and stories from local residents, to co-create a multimedia online storytelling exhibition for Reading Museum.

Three local artists were also commissioned to create artwork inspired by the stories, highlighting how each generation has contributed to enrich the history and culture of Oxford Road.

This project has significantly strengthened Reading's existing community networks, while providing the foundation for further student-community research training and collaboration with local organisations and the arts sector.

"Oxford Road offers accessibility to the practical needs of my life with a disability, including food shops. There are friendships with other immigrants in and around Oxford Road; they are like family."

Cyrilene Tollafield-Small, study participant who has lived on Oxford Road since 1965 (arrived with the Windrush generation aged 11)

External partners

Reading Borough Council

Baker Street Productions

UNTOLD

Lifespring Church

Reading Museum

Funders

Reading Borough Council

Historic England

University of Reading

Judges' comment

"The project was creative with diverse outputs. The Participatory action research approach empowers citizens to co-design the research, a contrast to traditional forms of citizen science, and ensures mutual benefit is maximised."

IMPROVING ETHNIC DIVERSITY IN HIGHER EDUCATION

Ciara McCabe, Kizzi Keast, Siyabend Kaya, Niamh Bull

Studies co-produced by Reading researchers with students from under-represented ethnic backgrounds are being used to support fair access to higher education.

While there has been a concerted effort in recent years to widen access to higher education (HE) in the UK, very little practical information is available on how those in the HE sector can encourage, facilitate, and support applications by black and minority ethnic students.

To address this issue, Professor Ciara McCabe (School of Psychology and Clinical Language Sciences) and Kizzi Keast (University Access and Outreach Manager) conducted inclusive studies involving students from under-represented ethnic backgrounds as both researchers and participants.

A cohort of 200 students from the Reading Scholars widening participation programme took part. The students were taught to conduct and present research using semi-structured qualitative interviews on how ethnicity affects university access in the UK.

Based on analysis of the resulting data, the research team, which included MSc and PhD students, published the Pioneers Report and a peer reviewed research article in the Journal of Further and Higher Education. The publications contain a series of recommendations for HE institutions and outreach practitioners, with a view to improving and facilitating access by black and minority ethnic students.

The recommendations have influenced policy and practice across the UK, both at Reading itself – where documents for parents of prospective students have now been translated into different languages – and via changes to the policies of the Study Higher partnership, which includes universities and colleges across Berkshire, Buckinghamshire, Oxfordshire, and Swindon.

"There's racism still going on. So it's like, will I feel welcome? How's my mental health going to be if I go there? Will I be looked down on?"

Study participant

External partners

Study Higher

Funders

Study Higher

Judges' comment
"This is a very strong project, in the way that it works with participants to explore the student viewpoint and explore specific dimensions of access in relation to ethnicity. Well designed, delivered and disseminated."

USING CULTURAL HERITAGE TO EMPOWER WOMEN AND ALLEVIATE POVERTY IN JORDAN

Steven Mithen, Fatima al-Namari (University of Petra)**, Obyda Hummas and Nebras Maslamani** (Future Pioneers for Empowering Communities)

An archaeologist from Reading is working with Jordanian partners to develop a new business in Faynan, southern Jordan, that is owned and managed by local Bedouin women to generate income for their community.

With a rich history of human habitation stretching back more than 500,000 years, the Faynan region in southern Jordan is an area of great archaeological wealth. But for many of the Bedouin tribes who live in Faynan and its main village of Greigra, poverty is a daily reality.

An innovative project designed to alleviate this poverty has been developed by Professor Steven Mithen, who saw first-hand the challenges faced by the local population while he was excavating a Neolithic settlement in Faynan and developing a local museum to support heritage-based eco-tourism into the region.

Working with colleagues from the University of Petra and Future Pioneers for Empowering Communities, a Jordan-based non-profit organisation, Professor Mithen secured funding to create a small business, owned and managed by Bedouin women. The business makes and sells handicraft products based on archaeological finds from his excavations.

Women from each of the five tribes in Faynan and Greigra were brought together to form the Faynan Heritage Women's Cultural Association (FHWCA). The women received two years of intensive support, including business training and professional advice on product design and manufacture to supplement their traditional craft skills. In March 2022, FHWCA successfully launched Faynan Heritage Home, a physical and online shop selling jewellery, pottery, and a range of hand-woven products. The project has already had a major impact on the self-esteem and status of the women, and some have used the training to find employment elsewhere.

 "Our women are our pride, and we strive to support women as partners in development of the local community in the region. We want the FHWCA to be a permanent and sustainable project in partnership with all institutions, supporting bodies and the local community."

Haifa Al-Najjar, Minister of Culture for Jordan

External partners

University of Petra

Future Pioneers for Empowering Communities

Funders

Arts and Humanities Research Council

Newton Fund

Judges' comment

"This creative project working with local partners takes successful research engagement that has been built up in Faynan over several years a big step further by creating a social enterprise to benefit local women in the community."

REDUCING RISK OF GLACIAL FLOODS IN CENTRAL ASIA

Maria Shahgedanova

By repurposing a technical geo-surveying technique as a practical management tool, a team of Reading researchers are helping to mitigate the potentially catastrophic effects of climate change in Central Asia.

As climate change intensifies, a dangerous type of flood known as a 'glacial lake outburst flood' is becoming increasingly common. Caused by the failure of a dam of ice containing a huge pocket of water within a glacier, these floods can cause an enormous amount of damage in a very short time.

In Central Asia, the approach being taken by risk reduction agencies to managing glacial lakes has been transformed in recent years, as a result of research by a team of Reading scientists. Led by Professor Maria

Shahgedanova, the team developed a new technique to predict the formation and expansion of glacial lakes using an existing technical model.

Shahgedanova and her colleagues used the Glacier Bed Topography (GlabTop) model – typically used to measure the thickness of glacial ice – to predict the future size and shape of glacial lakes. This enabled agencies in Kazakhstan, Uzbekistan, Kyrgyzstan and Tajikistan to focus their risk-reduction activities on the lakes with the strongest potential for growth.

In 2022, the project was expanded to enable better prediction of 'debris-flow' events. The researchers developed an interactive GIS database of the meteorological contexts of past debris-flow events, alongside an app to facilitate real-time risk assessment.

"This is an important step in developing an early-warning system providing a significant improvement in the operational work of the disaster-relief agencies in Central Asia."

Professor T. O. Balykbayev, Director of UNESCO Central Asian Regional Glaciological Centre (CARGC)

External partners

Central Asian Regional Glaciological Centre

Kazakhstan Institute of Geography

Kazakhstan State Agency for Mudflow Protection

Al-Farabi Kazakh State National University

Uzbekistan Institute of Geology and Geophysics

Uzbekistan Hydrometeorological Institute

Funders

Newton Fund

UKRI

University of Reading

Judges' comment

"A very good strategically targeted engagement approach, including the co-production of knowledge, that clearly demonstrates the benefits to local partners and delivers critical impact in reducing the hazard potential of glacier floods."

DESTIGMATISING SELF-INJURY THROUGH ART

Alanna Skuse and Tina O'Connell

Through a series of participant-led art workshops, Reading researchers are raising important questions about how we understand and talk about self-injury.

Seventeenth-century representations of self-injury in literature and art suggest that modern attitudes towards what is now considered a pathological behaviour are very different from those of the early modern period.

By encouraging exploration and discussion of how the motivations, representations, and social attitudes surrounding self-injury have changed throughout history, a project led by Dr Alanna Skuse is informing new models of patient engagement with at-risk groups.

In collaboration with Associate Professor Tina O'Connell who runs Reading's ArtLab, Skuse devised a series of workshops to bring together co-researchers from different academic backgrounds, cultures, and age groups, all of whom had a professional interest in – or lived experience of – self-injury.

Skuse and O'Connell worked with psychiatry professionals to create an atmosphere of trust during the workshops, facilitating open discussion between participants as they reflected on their personal experiences of self-injury through a range of artistic and creative techniques from clay modelling to digital animation.

The findings from the project are being used as the basis for a new academic monograph by Dr Skuse, while the artworks created during the workshops are being displayed as part of a digital exhibition to demonstrate how art-led, humanities-informed models can be used to discuss and destigmatise self-injury in both clinical and community settings.

"Really enjoyed the workshops. They were challenging in a positive way, and a space was created in which it was possible to be vulnerable. Having the art as an outlet helped facilitate this. Thank you for getting me involved!"

Workshop participant

External partners

The Tavistock and Portman
NHS Foundation Trust

Funders

Wellcome Trust

Judges' comment
"A very creative project with real strengths in cross-disciplinary working that combines artistic practice and historical context to address an important issue in innovative ways."

TACKLING AIR POLLUTION THROUGH CITIZEN SCIENCE

Hong Yang and Marta O'Brien

Researchers at Reading are helping communities to breathe healthier air by equipping schools and families with tools and skills to identify and tackle air pollution.

More than three million children across the UK are exposed to harmful levels of air pollution while travelling to and from school, with those in the South of England at particular risk. A project led by Dr Hong Yang and Marta O'Brien is now tackling air pollution in Reading and beyond, by engaging school pupils, parents, and teachers as citizen scientists.

The team monitored the air quality in and around the playgrounds and classrooms of four schools to determine levels of air pollution throughout the day. By distributing hand-held equipment to pupils and their parents to use during journeys to and from school, they were also able to track air pollution levels in real time on relevant travel routes.

Using this data together with questionnaire and interview feedback from parents, students, and teachers at the schools, the researchers developed a practical toolkit to help communities consider how to manage and invest in infrastructure that promotes cleaner air.

By working in partnership with local organisations including Reading Borough Council, the team was able to influence policies and practices across the town, while creating new opportunities to extend the project to several other areas in the South of England.

"It's really interesting to see about how the air pollution that we don't even see can affect us and how high it can be around schools."

Molly, Geoffrey Field Junior School

External partners

The Museum of English Rural Life

Reading Borough Council

Alfred Sutton Primary School

Hemdean House School

Oxford Road Community School
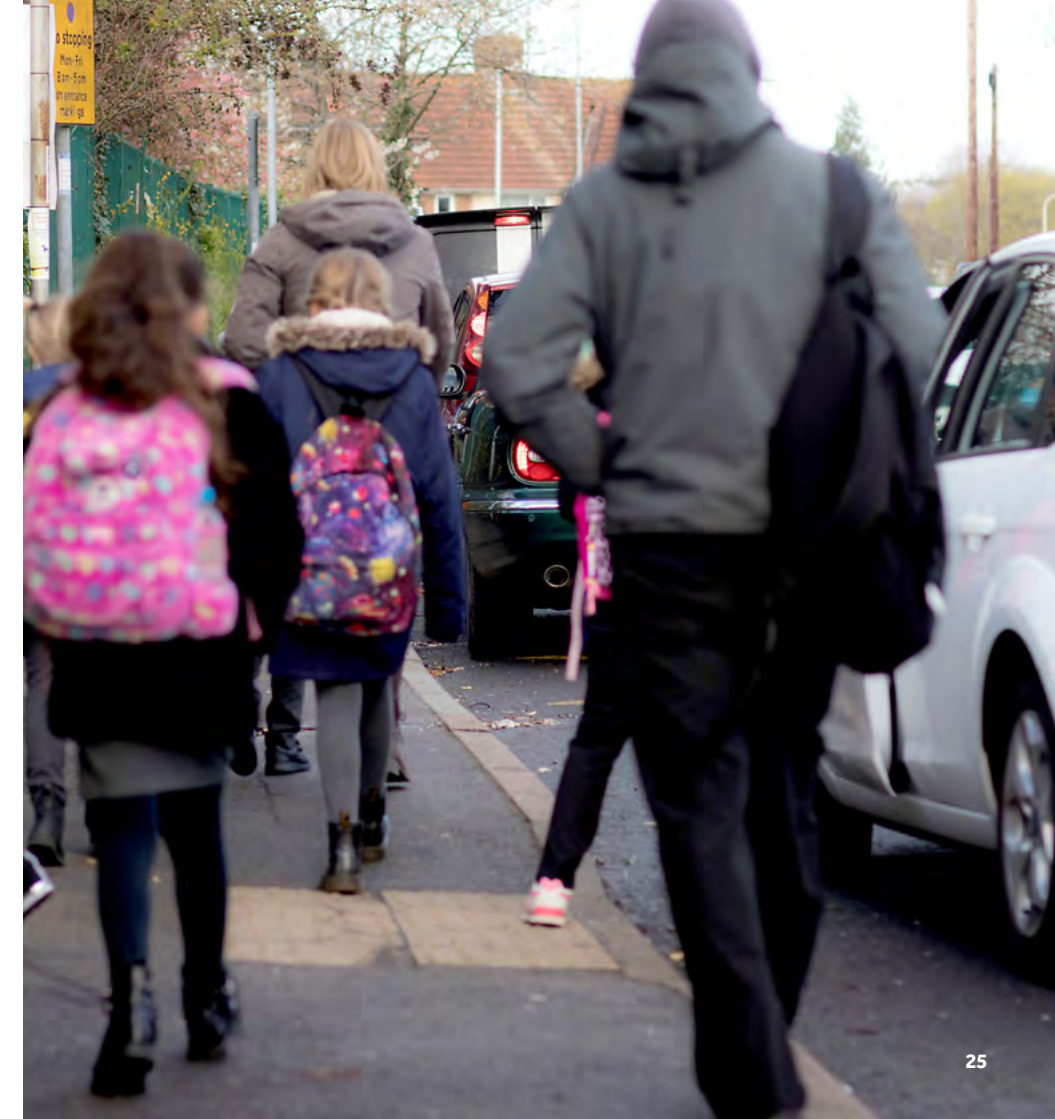
Geoffrey Field Junior School

Funders

Research England

Natural Environment Research Council

Community Fund (joint initiative between John Sykes Foundation and University of Reading)

Judges' comment
"A well designed and executed local project that takes a creative and innovative approach to engaging children and parents, including those from disadvantaged communities, and has generated significant impact and engagement with solid plans to extend its reach."

The University of Reading's research community is committed to engaging with public and professional audiences to ensure our research contributes to global debates and benefits the economic and social life of Reading and beyond.