



Inspiration to engage

Concordat for engaging the
public with research

FOREWORD

By the Rt Hon David Willetts
Minister for Universities and Science



In 2010, UK funders of research joined together to sign the *Concordat for Public Engagement with Research*. The Concordat helps to take forward the BIS vision and aims for Science and Society. The Concordat ensures that public engagement is valued, recognised and supported across the research and higher education sectors.

Public engagement is fundamental to research. It increases the impact research has on our society and economy. The Concordat offers the research and higher education sector a set of principles to support and encourage engagement. It aims to place a greater focus on, and help embed public engagement with research, in universities and other institutions by providing a single, unambiguous statement of expectations and responsibilities.

“ The Concordat offers the research and higher education sector a set of principles to support and encourage engagement. ”

I welcomed the establishment of the Concordat back in 2010 and endorsed it by BIS becoming a Supporter. I'm delighted therefore to see the developments in public engagement in the research culture that have happened since the Concordat's launch.

It has supported institutions to embed public engagement within their missions and key strategies, to create senior public engagement champions and to incorporate public engagement into staff policies and processes.

There are now more than 50 signatories and supporters to the Concordat, demonstrating the widespread commitment across the sector to public engagement with research. I am proud that BIS and our partner organisations which fund research, such as the Research Councils and higher education funding councils support the Concordat. I am also pleased to see that other Government departments such as Defra, Department for Communities and Local Government and the Home Office see value in it. I hope that by sharing the breadth of achievements celebrated in this publication, it will inspire the sector to continue with their substantial commitment to public engagement, and encourage others to sign up.

FOREWORD

By Professor John Womersley
Research Councils UK Champion for Public Engagement



Public engagement in research is vital. It enriches the research process and ensures the results of our work reach out beyond the usual environments of academia, business and government. It is an integral part of a researcher's career, and participation in public engagement activities must be encouraged and achievements recognised. Public engagement is not just a 'show and tell' activity – it is about listening to and involving the public. Public debate, feedback, questions and views inform researchers' thinking and decision-making. It can also explore complex issues within research and help create more informed, inspired and empowered citizens, enhancing both the quality of research and its impact.

Young people are hungry for new knowledge and ask some of the most novel research questions, and so researcher engagement with schools benefits both parties. Students will have an enriched learning experience and researchers are sowing the seeds to inspire the next generation of talent.

Taking part in public engagement activities contributes to a researcher's professional and career development. By engaging with the public, researchers enhance their communication and influencing skills, raise their personal and institutional profile, enhance the quality of their research by developing new partnerships or incorporating new perspectives, and their confidence and aspirations for the future grow.

The launch of the *Concordat for Public Engagement with Research* in 2010 was a defining moment for public engagement in the research sector as it demonstrated the strong commitment from UK research funders to encourage, support and reward researchers to engage with the public. Since the Concordat's launch, there have been significant

landmark developments to ensure that public engagement is embedded alongside research and valued as an important activity. These include: the RCUK School-University Partnerships Initiative (SUPI), which aims to support researchers' direct engagement with students; the RCUK Catalysts, which builds on the commitment to embed public engagement in higher education following the success of the Beacons for Public Engagement; and the Wellcome Trust's Institutional Strategic Support Fund which provides strategic funding to universities including support for public engagement and outreach activities. In addition, the embedding of research impact within Research Council grant applications and the assessment of impact within the UK higher education funding bodies' Research Excellence Framework (REF) has continued to gain momentum.

This publication aims to celebrate the achievements from research and higher education on the instilling of public engagement within their policies, procedures and practices, as well as the benefits of public engagement to research, researchers and their institutions. We hope that sharing these inspirational stories from across the UK will allow us to learn from each other so that the culture of valuing, recognising and supporting public engagement continues and thrives.

INTRODUCTION

Research funders believe that engaging the public with research helps empower people, broadens attitudes and ensures that the work of universities and research organisations is relevant to today's society. It increases society's awareness of the value of research, helping to inspire the next generation to take relevant post-16 studies and consider a career in research. Public engagement also brings many benefits to researchers at all levels including:

- improving the quality of research and enhancing its impact through bringing new research perspectives and widening research horizons
- enhancing the profile of researchers, their research and institution
- providing opportunities to influence and network with other researchers and the wider community leading to new collaborations and partnerships
- gaining additional funding
- enhancing career progression
- the development of transferable skills as outlined in the Vitae Researcher Development Framework (RDF) Public Engagement Lens¹
- participating in enjoyable and rewarding activities.

The funders of research in the UK are working together to create a culture where public engagement is regarded as an important and essential activity by the research community. The *Concordat for Public Engagement with Research*² was launched in 2010 to set out this shared vision, and is supported by a number of signatories within the

research and higher education sector. It provides a statement of the expectations and responsibilities of the signatories in achieving this aspiration as well as guidance for research organisations, their managers and researchers responsible for engaging with the public about their work. The Concordat focuses on public engagement with research; however, the signatories recognise that engaging with the public is an approach that can be integrated across universities (for example, in teaching and learning).

The Concordat complements the National Coordinating Centre for Public Engagement (NCCPE) *Manifesto for Public Engagement*³, which supports the embedding of public engagement in universities and research institutes, and the *Concordat to Support the Career Development of Researchers*⁴, through ensuring that public engagement is recognised and valued by the sector and that researchers are equipped and supported to engage the public with their work.

This publication celebrates the achievements in public engagement from across the research sector since the launch of the Concordat. This selection of highlights from higher education and research institutes, and personal stories from researchers across the UK, showcase the successes in embedding public engagement and the benefits of participating in public engagement to inspire others in the research sector.

Right: The CAER project roadshow at Ely Festival where local residents of all ages offered the HEART of Cardiff team advice on routes, important way-marks and local stories. Image: Cardiff University.

¹www.vitae.ac.uk/researchers/437191/Increasing-the-impact-and-engagement-of-researchers.html

²www.rcuk.ac.uk/per/Pages/Concordat.aspx

³<http://www.publicengagement.ac.uk/why-does-it-matter/manifesto>

⁴<http://www.vitae.ac.uk/policy-practice/505181/Concordat-to-Support-the-Career-Development-of-Researchers.html>



“ Research funders believe that engaging the public with research helps empower people, broadens attitudes and ensures that the work of universities and research organisations is relevant to today’s society. ”

CONCORDAT FOR ENGAGING THE PUBLIC WITH RESEARCH

A set of principles drawn up by the funders of research in the UK

STRATEGIC COMMITMENT

Principle 1

UK research organisations have a strategic commitment to public engagement

1. Research organisations should hold an understanding and definition of public engagement, appropriate to their context, which is shared and used consistently across the organisation.
2. Public engagement should be embedded within research organisations' missions, key strategies and operational plans to help to provide focus, meaning, emphasis and support for public engagement. This may include an organisational public engagement strategy led at senior levels and communicated effectively (internally and externally).
3. It is recognised that senior public engagement champions are essential in fostering public engagement throughout all researcher levels, and these individuals should be encouraged and supported by their research organisations.

Public engagement thrives when there is a strategic commitment 'from the top', and many universities have now embedded public engagement within their missions and corporate strategies.

A core element of the University of Birmingham's 2015 Strategic Framework, for example, is engagement – not only in the dissemination of ground-breaking research, but also in its design and delivery, ensuring that public need is at its heart. To connect this top-level strategy with staff and researchers in an effective way, the University created a Public Engagement Working Group

with champions from across the university, led by the author, science journalist and presenter Alice Roberts as the University's first Professor of Public Engagement in Science, along with Professor Ian Grosvenor, Deputy Pro Vice Chancellor for Cultural Engagement, emphasising their interdisciplinary commitment to developing and disseminating great research with the public.

Embedding public engagement has been a huge culture change for many universities. Supported by an RCUK Catalyst award, the landscape at the University of Aberdeen for researcher-led public



“ Public engagement thrives when there is a strategic commitment ‘from the top’. ”

engagement has been transformed through the implementation of a highly visible researcher engagement and development approach. A dedicated Public Engagement with Research Unit has been established, with a central team enriched by research-active public engagement coordinators seconded from each of the University’s academic colleges. This develops roots deep into the research community, enabling the University to respond quickly to emerging challenges and issues. A particular success was the inaugural *University of Aberdeen May Festival*, where 100 researchers engaged with 7,300 public visitors, forming new and mutually beneficial partnerships.

Many universities, research institutes and community organisations have also joined up to explore effective public engagement. The Beacon for Wales, for example, was formed from a partnership between Cardiff University, University of Glamorgan, Techniquet, Amgueddfa Cymru-National Museum Wales, and BBC Cymru Wales. All organisations used their expertise to challenge the state of engagement across Welsh universities, support its development and provide opportunities for academics to reach new audiences. It has helped, and continues to support, Welsh universities to listen to, work with and learn from their communities by developing the skills and confidence of university staff and researchers to undertake high-quality public engagement.

REWARD AND RECOGNITION

Principle 2

Researchers are recognised and valued for their involvement with public engagement activities

1. The benefits of public engagement to researchers should be clearly recognised and promoted at all stages of their career, including its valuable role in developing transferable skills.
2. Research organisations should consider whether public engagement is appropriately represented in staff policies and processes (such as for inductions, performance review, promotions criteria or workload planning) to allow researchers to be involved in public engagement activities without impairing their career.
3. Those responsible for the implementation of such processes, including research managers and relevant supporters of researchers, should receive appropriate briefing and support.
4. Research organisations are encouraged to celebrate and communicate their researchers' successes in public engagement.

Recognition and reward are key ways in which universities can demonstrate to staff, researchers and students that their institution genuinely values public engagement. Since the launch of the Concordat, a number of universities have made significant steps in embedding engagement at an institutional level that has a positive impact on staff and researchers involved with public engagement activities.

The University of Glasgow, for example, has adapted its promotion criteria to explicitly recognise public engagement work, enabling staff to progress further in their careers. Cardiff University and the former University of Glamorgan adapted their reward and recognition structures so that staff and researchers can include public engagement activities as a dedicated part of their role.

A great example of innovative ways to recognise the value of public engagement for researchers and staff is at the University of East Anglia (UEA). The legacy of UEA's Community University

Engagement Beacon, CUE East, continues following the development of a simple typology of public and community engagement that is now incorporated into the University's academic promotions criteria and is used for training and brokerage activities.

A significant milestone was the promotion of two lecturers on the basis of their engagement activities. UEA schools also started to advertise and recruit academic staff with engagement in mind. UEA also presented engagement awards during the University's congregation ceremony alongside the Honorary Awards, with individual citations and other rewards for the award winners. These awards are now a permanent annual feature of the academic year, and the award holders regard themselves as champions for public engagement within the University.

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Adapting promotion criteria, reward and recognition structures enables staff and researchers to include public engagement activities as a dedicated part of their role.

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SKILLS, SUPPORT AND OPPORTUNITIES

Principle 3

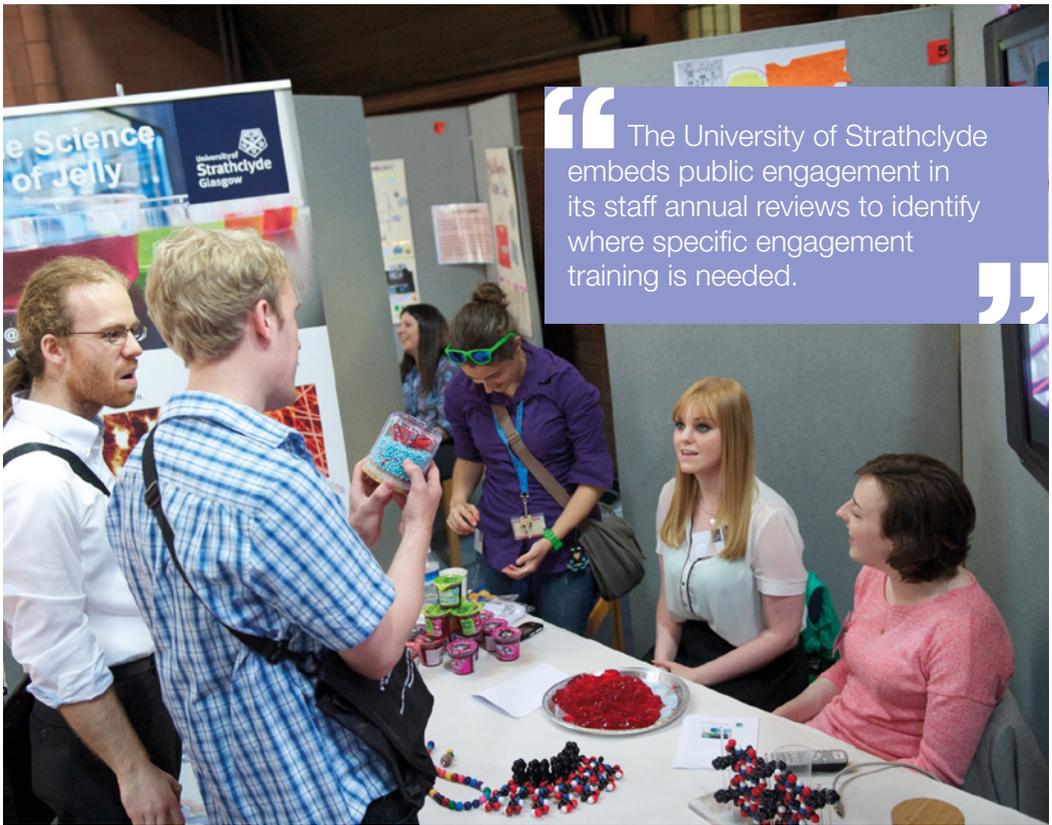
Researchers are enabled to participate in public engagement activities through appropriate training, support and opportunities

1. Research organisations are conscious of the attributes required for public engagement, recognising that such attributes are a subset of the skills, behaviours and personal qualities that researchers should be aspiring towards in their professional development (as outlined in the Researcher Development Statement and relevant professional qualifications).
2. Research organisations recognise the importance of professional development in public engagement for researchers and provide access to relevant training and development opportunities (for example by integrating public engagement attributes into institutional professional development plans), ensuring that a lack of skills is not a barrier to engagement.
3. Researchers share the responsibility for developing their engagement practice and are encouraged pro-actively to engage in appropriate professional development.
4. Research managers should support and encourage the development of their teams' public engagement practice (e.g. through professional development and appropriate participation in public engagement activities).
5. Research organisations should facilitate opportunities for researchers to engage with the public.
6. Research organisations should seek to provide practical support for researchers to engage with the public, whether delivered at a departmental, institutional or regional level (e.g. through deployment of staff (supporters of research)). This could include administrative support, expertise, advice, access to information on financial assistance and/or signposts to examples of good practice and potential partners.
7. Research organisations are encouraged to consider how public engagement is coordinated across the institution to enable the sharing of good practice and help ensure activities are consistent with the institution's policy.
8. Research organisations should actively assess and manage potential institutional and personal risks associated with public engagement.

Public engagement can bring great rewards for the university, staff, researchers, as well as the public who have the opportunity to bring in new perspectives to improve the quality of research and enhance its impact. This relies on researchers developing news skills and expertise, and this can

only be done if their institution provides adequate training and support.

The University of Strathclyde has embedded public engagement as a criterion within its Annual Development Review process, which is undertaken



“ The University of Strathclyde embeds public engagement in its staff annual reviews to identify where specific engagement training is needed. ”

by every member of staff. This ensures that public engagement is not only considered as an important part of staff roles but that specialist training in public engagement can be offered to address any gaps in skills.

Public engagement champions from across the University of Manchester are also working together to improve co-ordination and sharing of good practice. Faculty trainers are embedding public engagement training and support in researcher professional development. One example is the Dragon's Den Cross-Faculty Public Engagement Training and Mentoring Programme. Twenty researchers take part each year attending a training day and, weeks later, pitch their idea at a 'Dragon's Den' to gain funding. Successful applicants are then paired with volunteer mentors to deliver a public engagement activity.

Another example is 'Junk the Jargon' – this competition challenges all early career researchers to communicate their research to a public audience in just three minutes.

Another great example is the Edinburgh Beltane Public Engagement Fellowship Scheme, which gives established academics and early career researchers time to develop public engagement ideas, improve engagement skills and act as public engagement ambassadors. The Scheme provides fellows with an extensive network of public engagement enthusiasts and connections to public groups, improving their confidence and experience in a wide range of public engagement approaches and particularly helps them promote their research beyond their own special interest groups. This Scheme was highly commended at the Times Higher Awards in 2012 for Outstanding Support for Early Career Researchers.

IMPLEMENTATION AND IMPACT

Principle 4

The signatories and supporters of this Concordat will undertake regular reviews of their and the wider research sector's progress in fostering public engagement across the UK

1. Research organisations should themselves monitor and evaluate the efficacy of the public engagement they support in addressing their strategic aims and the extent to which they are meeting the expectations outlined in this Concordat. This could include seeking feedback from staff, students and the public.
2. This Concordat provides a common framework for regular reviews of progress across the sector by the Funders, through existing reporting structures.
3. Research organisations should work together to develop and share good practice in public engagement and in the implementation of the Concordat.

Raising awareness about the Concordat is integral to fulfilling this principle. As part of a collective effort to foster public engagement, the signatories and supporters have expanded existing or developed new initiatives to encourage and support researchers' engagement with the public throughout the research process.

RCUK, the UK funding councils and the Wellcome Trust, for example, fund the National Co-ordinating Centre for Public Engagement (NCCPE), which provides support to universities and research organisations through workshops, courses, online resources, and an annual conference. The NCCPE has developed a set of briefings on the Concordat and ways this can be implemented for researchers, managers and senior managers. Other initiatives from these funders include RCUK's Public Engagement with Research Catalysts, which funds universities to promote culture change and integrate public engagement into their policies, procedures and practices. Furthermore, RCUK's School-University Partnerships Initiative has awarded grants to

universities to support researchers' direct engagement with students in schools.

At the Wellcome Trust, the Institutional Strategic Support Fund has enabled a number of universities that receive significant funding support to strengthen their public engagement in line with the Concordat principles. The Royal Society cites the Concordat in its terms and conditions for awards and Defra expect its researchers to clearly demonstrate public engagement during the project tendering process. RCUK has also produced an online suite of case studies of researchers who included public engagement in their Pathways to Impact to inspire other researchers.

Supporting researchers to develop the skills necessary for public engagement is fundamental. For example, the Researcher Development Framework (RDF) Public Engagement Lens, produced by Vitae, the NCCPE and RCUK, highlights the many benefits of public engagement to researchers to ensure that public engagement is part of every researcher's portfolio of skills.



“ New and existing initiatives have been developed by the signatories and supporters to encourage public engagement throughout the research process. ”

Above: An event to tell the story of the evolution of the East End of London, part of Queen Mary University of London's (QMUL) Water City Festival. QMUL is one of the Catalysts, an initiative which supports the embedding of public engagement in research within higher education.

Supporters and signatories of the Concordat also undertake regular monitoring and evaluate the public engagement activities which they support. Progress has been monitored by adapting existing reporting structures to capture information on strategic commitment, reward and recognition, skills, support and opportunities for public engagement. For example, the Higher Education Funding Councils for Wales altered their funding formula for their Innovation and Engagement Fund to include academic staff time expended on public engagement activity. The UK-wide Research Excellence Framework (REF), managed jointly by the four higher education funding bodies, also includes assessment criteria that examine the impact of research, including public engagement.

The Concordat Working Group continues to meet to develop implementation plans and share best practice. The progress made in embedding public engagement has been tremendous, but the signatories and supporters recognise that their and the wider research sectors' efforts need to continue and will endeavour to support each other to achieve their vision of a research culture which encourages, supports and recognises public engagement.



Cardiff University student
engaging with pupils



THE BENEFITS OF PUBLIC ENGAGEMENT

CASE STUDIES

Public engagement brings rewards to researchers at all levels and the personal stories in this section evidence the valuable benefits that can be gained.

Citizen science projects, for example, allow researchers to carry out large-scale studies which would otherwise be challenging to implement. Being involved in public engagement projects has led to researchers discovering unexpected findings, new perspectives, and new ways to consider one's research. Many researchers have found that through engaging the public with their research, their research results have led to transformation of policies, thereby enhancing the societal impact of their work. The improvement of skills by engaging with public audiences, such as communications and networking, has proven invaluable as they progress in their career. Recognition for participating in public engagement projects has also enhanced researchers' profiles as well as that of their research and institution, leading to new positions and additional funding.

Public engagement with research encompasses a diverse group of activities, from science communication in science centres or festivals, to consultation, to public dialogue. In addition to illustrating the benefits of public engagement, these case studies highlight some of the innovative ways in which researchers across the UK are engaging with the public.

ENHANCING RESEARCH
CAREER INSPIRATION
RAISING YOUR PROFILE
DEVELOPING SKILLS

CASE STUDY | ENHANCING RESEARCH

SPOTTING FLYING ANTS

Love them or hate them, flying ants hold a special fascination for the public. More than 6,000 sightings of flying ants were recorded in 2012 by members of the public as part of a University of Gloucestershire citizen science project, designed to explore the concept of what the UK media has labelled 'Flying Ant Day'. By looking out for flying ants and taking just a few minutes to fill out a survey, the public allowed research to be done which scientists couldn't possibly do on their own. It has meant the project is running annually and further investigations can now be made into the flying ant world.

More than 2,000 'super-engagers' have become more active participants in the 2013 survey, collecting samples of flying ants in tubes so the species can be identified.



Some unexpected results were revealed: it was discovered that there really is no such thing as Flying Ant Day, as there were two peaks of appearances over a fortnight. The results of this ongoing public engagement project shows the real power of data collected by the public, and how engaging with a non-specialist audience can enhance the quality of research and its impact.

“ Every summer, millions of potential new queen ants take to the air to mate with males in their annual nuptial flight. I started the Flying Ant Survey to investigate whether they appear at the same time in different parts of the UK and what weather conditions encourage ants to fly, as well as to raise awareness of this fascinating natural spectacle.

Dr Adam Hart,
Professor of Science Communications



Widespread national media coverage and a Twitter storm of #flyingantsurvey resulted in thousands of participants submitting photos with details of where and when they spotted the ants.

CASE STUDY ENHANCING RESEARCH

WHAT'S FOR LUNCH?

For decades, we have been told how important it is for all of us to eat our '5-a-day', and with rising childhood obesity, a good place to start is to ensure that school meals are healthy, nutritious and sustainable for our children.

Findings from a wide-ranging public engagement programme by Cardiff University researchers (Professor Kevin Morgan and Dr Roberta Sonnino) about healthy eating initiatives were used in the design of the *Food for Life Partnership* – a network of schools across England committed to transforming food culture. The researchers engaged with schools, pupils and other community groups in the UK and overseas through school visits and utilising existing networks or media exposure. Their research helped to fashion a new discourse around a whole school approach, where the message in the classroom (about eating well and being well) is consistent with the menu in the dining room. It also demonstrated how the supply chain could be reformed to make the food healthier and more sustainable.



Above: Professor Morgan and Dr Sonnino helping out at the Plumcroft School allotment in Greenwich. The allotment is one of the School's many healthy eating and sustainability initiatives which helped inform the Cardiff research.

Food for Life is one of the most transformative food programmes in Europe, bringing a comprehensive approach to school meal reform to more than 3,000 schools, with more than 500,000 children now eating *Food for Life* accredited meals.

“Engagement activities are an embedded aspect of academic work, recognised in the University's promotion pathways and an important element of the developing workload model framework.”

Professor Kevin Morgan

The work has delivered several benefits to Cardiff University, including increased public awareness of the value of the University's research, a high number of academic citations, a well-received book (*The School Food Revolution*), and the ability to influence local and international developments. The most recent accolade has been recognition from the Economic and Social Research Council (ESRC) through the award of the Outstanding Impact Prize in 2013. Lead researcher Professor Kevin Morgan was also appointed as the Dean of Engagement in early 2013 to act as a champion for public engagement.

CASE STUDY ENHANCING RESEARCH

DANCEROOM SPECTROSCOPY

As you're reading this, you're being bombarded billions of times a second by atoms and molecules in the air. You can't see or feel them, but imagine if you could?

danceroom Spectroscopy (dS) is an interactive performance exhibit that allows you to step into the invisible quantum world. It uses quantum equations of motion to simulate the movement of atoms and molecules using a supercomputer and projects these simulations onto large screens. A set of 3D imaging cameras maps the position and movement of people interacting with the exhibit.

More than 60,000 people have experienced dS at venues ranging from the Shambala Arts Festival to the Big Bang Fair. It was also selected to be part of the London 2012 Cultural Olympiad, where the creator, Dr David Glowacki of the University of Bristol, and his team spent several days in Weymouth engaging those attending the sailing competitions with a 360° version of the exhibit.

dS is an example of an innovative public engagement idea that started small and has blossomed. Its impact has been wide-ranging, particularly on Dr David Glowacki himself. His research looks at molecular dynamics and the development of computer models to predict the property behaviour of materials. He has launched projects in a computer science direction which were only possible through his expertise in developing algorithms from the dS project.

Dr David Glowacki's achievements have also been recognised and rewarded through the achievement of the University's Engagement Award 2013 for outstanding engagement; the Best Digital Innovation 2012 from the UK Royal Television Society; honourable mention for the Prix Ars Electronica; and a nomination for a Royal Society Kohn Award for excellence in engaging the public with science.

 I'm stunned at how dS has now become something of an international underground phenomenon. What started as an engagement project has now evolved into something that raises real research questions spanning the boundaries of chemistry, computer science, and digital media.

Dr David Glowacki



Image credit: Paul Blakemore





MEET THE DENTAL DETECTIVES

Are children really afraid of going to the dentist? Or is this a myth and there are other reasons why children don't attend as often as they should?

A unique collaboration between local primary school children, aged 9-10 years, and researchers in both paediatric dentistry (Dr Ben Roberts and Dr Ferranti Wong) and drama (Dr Ali Campbell) from Queen Mary University London, found that children value relationship, transparency, honesty and empathy when being treated by the dentist.

The children took a leading role in the research through a series of child-led workshops and visited the Institute of Dentistry where they experienced being a dentist for the day. By using applied arts practice to facilitate dialogue, the children felt empowered to voice their thoughts and opinions, and asked that dentists talk directly to them and not to their parents.

The researchers gained new insights into their relationship with children and the way they approached their child-focused research. The children changed the research question from 'Why do I have to go to see the dentist?' to 'Why don't children go to see the dentist more often?' They also redesigned the Institute's child anxiety questionnaire and used it to survey 100 of their peers at school.

A new section was included in the questionnaire for the children to draw a picture of their perceptions of what it is like to go to the dentists.

These images were acted out in applied performance work, highlighting areas of dental practice that might be improved. This exposure changed the way the researchers and students approached children's dental anxiety and will be used in future projects.

“ Skills development for the researchers was an integral part of this project. Working with the children on an equal footing provided the paediatric dentists with a unique insight into how children feel when they are going to the dentist which they will carry with them throughout their careers.

Ferranti Wong,
Professor of Paediatric Dentistry

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CASE STUDY | ENHANCING RESEARCH

INSPIRING LIVES: FROM DISCOVERY TO RECOVERY

It's not every day that school pupils get the opportunity to take part in real experiments and to experience being a pharmaceutical research scientist. But researchers from the School of Pharmacy at Queen's University Belfast made this possible for 90 local Year 9 and Year 10 students. Little did the scientists know that through their interaction with these school pupils, they would unwittingly learn a little more about the principles and theories of the discipline in which they work.

The aim was to inspire the pupils to choose to study science subjects, encourage them to pursue scientific careers in the future and give them an insight into research processes, enabling them to act as informed citizens.



The task of designing experiments that explained the theory of the work being carried out by the pharmaceutical scientists, while still maintaining the novelty of it was a particular challenge but one which has been of benefit to the researchers as they progress their own research forwards. For example, it has helped enrich their work on microneedle technologies. As the pharmaceutical industry moves towards mass production of these microneedles, an understanding of how they are viewed and interpreted by children, one of the intended end users of the product, has been invaluable. These views could have a profound impact on the perception and subsequent success of a microneedle-based product as it moves towards commercial development.

As research scientists, it is often easy to become so embroiled in your own experiments, data interpretation and analysis that the eventual end product and indeed the end user of the same can be neglected in a sea of data! Through public engagement, we are reminded to focus our efforts not solely on the theory but also on the intended users of our products.

Dr Maeliosa McCrudden,
Postdoctoral research fellow who led the project

Through the RCUK School-University Partnerships Initiative (SUPI), workshops were held with the students in the pharmacy laboratory, with a range of fun and interactive experiments designed to explore what gels should be used to control the release of a medication from a tablet. The researchers had to design experiments that young people could understand and appreciate.

CASE STUDY | ENHANCING RESEARCH

THE Z FACTOR

Hundreds of people became zombies as part of a unique experiment by University of Essex researchers to investigate crowd evacuation techniques. Held at ZombieLab, a three-day festival run by the Science Museum which explores consciousness and collective behaviour, researchers Edward Codling and Nikolai Bode were able to gather enough data to publish a scientific paper in a top journal. This led to an invitation from the BBC to run a similar human crowd experiment, which was featured on Dara O'Briain's *Science Club*.

ZombieLab was busy with more than 12,000 people attending during the three days. The team had to manage large numbers for their 'Horde' experiment, which helped to develop their skills and they now plan to design and manage future crowd experiments with larger groups of people.



“ Having large audiences interested in your work is incredibly motivating. It’s very satisfying to feel that we have given something back and engaged people in science. Getting data was a bonus!

Nikolai Bode,
Researcher

Face-to-face conversations with participants gave the researchers a deeper insight into how the public understand and engage with scientific research. Participants were able to clearly see the direct relevance and potential impact of the research: by understanding human crowd behaviour better, researchers can design improved evacuation strategies from buildings. The experiment has given the research team increased motivation to formulate further questions that relate directly to peoples' lives.

The ZombieLab engagement work with the Science Museum has raised the research team's public profile and made their work more visible. The team were invited back to the Science Museum for a three month residency in the *Who am I?* gallery.

CASE STUDY CAREER INSPIRATION

RECOGNISING THE VALUE OF PUBLIC ENGAGEMENT WITH RESEARCH

Being a lecturer in medieval literature isn't often associated with working with dusty manuscripts and school projects to uncover unique local stories. However, by sharing her archival and communication experience, Dr Karen Smyth has supported a number of community groups to develop skills to carry out research on wheat fields, footpaths, to whole village histories, or boat and train routes. These, and other research activities with public engagement at their core, have enhanced her career; having recently been awarded her university's project prize for 'Outstanding Contribution in Public and Community Engagement'.



Indirect research benefits can emerge from engagement work. What started out as a response to an invitation to help promote public awareness of medieval street theatre has developed as an independent research project.

Through the AHRC Connected Communities project 'All our Stories' at UEA, Dr Smyth has progressed from being an early career researcher to a Principal Investigator of a follow-on project application. She had pre-existing research interests in writing biographies of literary figures such as John Lydgate a monk and poet born in Suffolk. As a direct result of working with the community groups in the devising of their archives, Karen has

become interested in how people have responded to medieval texts over the centuries.

She has become much more aware of the sheer variety of visual, creative, cultural and community contexts for exploring the way these stories have been treated.

Dr Smyth has now developed a new research project to focus on mapping the processes involved in creating, preserving and disseminating heritage stories, which will develop our understanding of how we pass stories of our past.

CASE STUDY RAISING YOUR PROFILE

BECOMING A LEADER IN DEMENTIA RESEARCH AND POLICY

A unique public engagement project led by Plymouth University researcher Ian Sheriff has established a city-wide approach to supporting people with dementia and set up the first local Dementia Action Alliance in the country, positioning the University as a leader in dementia research and community outreach.

The project explored the extent to which local dementia care services met the requirements of Objective Two of the *National Dementia Strategy*, focusing on the experiences of and attitudes towards the early diagnosis of dementia through interviews with people with dementia and their carers, as well as with primary health care practitioners.



Above: Ian Sheriff.

This work resulted in Ian Sheriff being appointed to the Dementia Friendly Communities Champion Group by the Prime Minister in 2012. He formed the Plymouth University Dementia Group, a multi-disciplinary and multi-professional team that uses a proactive and partnership approach to create direct impact on local policy and practice.

He will now be using his research to assist Devon County Council in developing new multi-million pound dementia care Centres of Excellence. His collaborative research with Bournemouth University is one of 74 projects funded by NHS South of England (from the Dementia Challenge Fund) to enable local GPs to commission innovations and best practice in dementia care.

“ Plymouth University has achieved a considerable amount of interest from all sectors in its quest to become the first point of call on all matters relating to dementia in the south west of England and at this point in time we are well on the road to achieve that goal. ”

Having influenced dementia related health and social care policy and practice at the local and national level, Ian is utilising his heightened profile to secure external funding for his research on a broader scale with exciting opportunities opening in Europe. Ian has experienced an increase in research collaboration offers from other experts and is now working on large scale consortium bids.

CASE STUDY DEVELOPING SKILLS

“A BETTER, MORE CONFIDENT RESEARCHER”

Sonia Watson, a PhD student in physiology at the University of Aberdeen, reached the London finals of FameLab UK – a competition designed to find the new faces of science and engineering communication, which Sonia claims has helped make her a better and more confident researcher.

The FameLab experience has helped Sonia to develop presentation skills and confidence immeasurably, and she would now be happy and confident to present her work succinctly to anyone from school children to leading scientists in her field. The skills training offered by the University and FameLab has helped her to develop other attributes linked to presenting but often overlooked such as voice projection, stage presence and how to effectively use a microphone. The competition in FameLab was intense and she quickly developed skills to remain calm and effective under pressure.

Through public engagement projects, Sonia has interacted not only with the public but also with other scientists that she would otherwise not have met. This has led to fruitful discussions about her research and enabled her to view her work through differing perspectives.



Above: Sonia Watson during the FameLab competition.

“Public engagement has allowed me to take my work out of the lab, talk to other researchers about their work and even about their careers – something I feel will be important for me when I begin looking to move on to postdoctoral work.”

Sonia Watson

As a result of her continued involvement in public engagement and increased visibility due to taking part in FameLab, Sonia was able to secure funding from the Scottish branch of the British Science Association to run a 'Skeptics in the Pub' special. She was also invited to talk about her research on a short YouTube film.

DEFINITIONS OF TERMS

PUBLIC ENGAGEMENT

Public engagement (with research) describes any activity which involves the public with research. Engagement is a two-way process involving interaction and listening with the goal of generating mutual benefit.

MANIFESTO FOR PUBLIC ENGAGEMENT

The Manifesto for Public Engagement, developed and hosted by NCCPE, supports the embedding of public engagement in higher education and research institutes. Signatories aim to celebrate and share the public engagement activity and express their strategic commitment to engaging with the public.

BEACONS FOR PUBLIC ENGAGEMENT

The Beacons for Public Engagement was a four-year initiative aimed to inspire a culture change in how universities and research institutes engage with the public. It was set up in 2008 by the UK higher education funding councils, RCUK and the Wellcome Trust. The six Beacons were university-based collaborative centres that helped support, recognise, reward and build capacity for public engagement work. Their partners included further education colleges, museums, galleries, businesses, charities, TV and press, and public bodies.

CATALYSTS

RCUK launched the Catalyst Project in 2012. Eight universities received funding for three years to catalyse culture change within their institution and help them embed public engagement with research within their policies, procedures and practices, drawing on the lessons learnt from the Beacons.

SCHOOL-UNIVERSITY PARTNERSHIPS INITIATIVE (SUPI)

RCUK launched the School-University Partnerships Initiative in 2013. The three-year initiative awarded funding to 12 universities to create structured and strategic mechanisms for working in partnership with secondary schools and further education colleges. The partnership aims to support researchers' direct engagement with students and bring contemporary and inspirational research contexts into formal and informal learning to enhance and enrich the curriculum.

SIGNATORIES OF THE CONCORDAT FOR ENGAGING THE PUBLIC WITH RESEARCH



SUPPORTERS

- Academy of Medical Sciences
- Academy of Social Sciences
- Association of Medical Research Charities
- Association of Research Managers and Administrators UK
- British Science Association
- The Consortium for Research Excellence, Support and Training
- The Cultural Capital Exchange
- Department for Business, Innovation and Skills
- Department for Communities and Local Government
- Engineering UK
- Food Standards Agency
- GuildHE
- Home Office
- Institute of Physics
- Institution of Mechanical Engineers
- Million+
- The National Centre for the Replacement, Refinement and Reduction of Animals in Research
- National Coordinating Centre for Public Engagement
- National Physical Laboratory
- The Natural History Museum
- Parkinson's UK
- Quality Assurance Agency
- Royal Geographical Society
- Royal Institution
- Royal Society of Chemistry
- Royal Society of Edinburgh
- Royal Meteorological Society
- Science Museum
- Science Council
- Society of Biology
- The Russell Group
- Technology Strategy Board
- The Wellcome Trust
- UK Association for Science and Discovery Centres
- Universities UK
- University Alliance
- Vitae

Research Councils UK (RCUK) is the strategic partnership of the UK's seven Research Councils. We invest around £3 billion each year in cutting edge research that has an impact on the economic growth and wellbeing of the UK, tackling global societal issues such as climate change, poverty and terrorism. The Research Councils, as a collective RCUK, are signatories to the *Concordat for Engaging the Public with Research* developed by the funders of research in the UK and convene the Concordat Working Group.

The seven UK Research Councils are:

- Arts & Humanities Research Council (AHRC)
- Biotechnology & Biological Sciences Research Council (BBSRC)
- Economic & Social Research Council (ESRC)
- Engineering & Physical Sciences Research Council (EPSRC)
- Medical Research Council (MRC)
- Natural Environment Research Council (NERC)
- Science & Technology Facilities Council (STFC)