

UNIVERSITY OF ABERDEEN

UNIVERSITY MANAGEMENT GROUP

PUBLIC ENGAGEMENT WITH SCIENCE STRATEGY**1. Summary**

There is an ever-increasing emphasis being placed on issues of science and society by a whole range of organisations, including Government, public funding bodies, industry and the media. This coupled, with a naturally curious public and the call for dialogue by policymakers, brings about new and timely opportunities to engage a range of audiences with the world leading research and innovation taking place in Universities and Research Institutes. The University is extremely well placed to lead in this challenge, with increasing enthusiasm in our Colleges, the appointment of Dr Ken Skeldon to the post of coordinator for Public Engagement with science, and the merger with the Rowett Institute bringing the expertise and experience in knowledge transfer of Dr Sue Bird, all of which builds on an already-strong corporate communications and events function. This paper proposes a strategy for our Public Engagement activity across the disciplines of Science, Technology, Engineering, Mathematics and Medicine (STEMM). If we were to summarise our mission in this area in one sentence it might be:-

“to share the excitement, relevance and importance of science, technology, engineering, maths and medicine with people and communities everywhere.”

The University of Aberdeen is determined to drive forward an organised collective programme in this area which not only serves to provoke discussion between researchers and audiences and raise the profile of our teaching and research, but which strengthens the transferable skills and career enhancement opportunities on offer to our staff and students. It is anticipated that our strategy should help evolve the culture within the University towards public engagement with the sciences.

In this proposed Public Engagement with Science strategy, we intend to build on the initiatives and partnerships that the University has already established, for example through its academic champions such as Dr Andy Schofield in CLMS and Dr Lynda Storey in COPS as well as forge new opportunities through the merger with the Rowett Institute and collaboration with external partners. Set against this, the University's Cultural Engagement Strategy provides a companion set of values with which we can interlace and seek mutual benefit. Existing high profile festivals WORD and TECHFEST together with the British Association-coordinated National Science and Engineering Week (NSEW) provide calendar anchors well distributed through the year around which we can focus funding initiatives and activity. We have an active British Association Aberdeen Branch currently chaired by Professor Peter Robertson of RGU and championed by our own Dr Sue Bird of the Rowett Institute which will be an impartial broker for cross-partner projects. We also have Aberdeen's local science centre Satrosphere, the first of its type in Scotland, presenting with enthusiastic new staff and managerial team chaired by Professor Dominic Houlihan, and offering a doorstep resource for the staging and co-production of events.

We aim to put into place a model for good practice that seeks to deliver career-enhancing opportunities for our researchers in companion with the engagement initiatives that we might champion. Tangible methodologies are already in place for achieving this, including the Robert's programme for skills development and the initiatives coordinated by GRAD schools. Where opportunities arise for outreach collaborations across disciplines and Schools and Colleges, we will ensure these are fostered and supported. Sustainability for programme delivery will be achieved through an approach of sponsorship and partner support complemented by new engagement grant applications to various bodies including the research councils, supported by the considerable Public Engagement expertise within our team.

In summary it is our intention to become a recognised leader in the area of public exposure regarding science issues. Bearing in mind that the primary asset is the creative human resource within the University, we will endeavour to:-

- Create a support culture whereby staff and students are empowered as the driving force behind our Public Engagement Strategy, ensuring its originality and longer term sustainability, and have their contribution recognised at a managerial level
- Incorporate transferable and communications skills enhancement opportunities for staff and students as part of our Public Engagement Strategy
- Make the most efficient use of existing strengths across the Colleges with regard expertise and partnerships while building new collaborations.
- Embed our engagement model with science within major University projects, including research priorities, the overhauled website design and major projects such as the new buildings for research and teaching
- Seek mutual benefit with our student recruitment activity where there exist areas of natural overlap such as delivery expertise, resource production and sharing.

2. Background

A brief appraisal of the top-ranking Universities across the UK and around the world shows, as we might expect, a set of common qualities in areas such as research and teaching excellence. . More often than not in the present academic climate, we find that another of these attributes is a proactive and forward-looking Public Engagement Strategy - something that traditionally might not be considered part of a University's internal structure. Indeed, many institutions have now set up dedicated units for Science Communication and Science in Society issues, for example Bristol, Edinburgh and Imperial College London. There are various reasons for this move, beginning with top level reports on the Public's Understanding of Science dating back some 15 years or so, and an increasing degree of importance placed on engagement activity since then, by grant providers including the Research Funding councils.

This was epitomised recently by the HEFCE-led Beacons for Public Engagement Initiative – the single largest ever investment of funding into this area by the consortium of UK Research councils, RCUK. It is at present unclear whether further Beacons applications will be invited. If they are, it will most likely be some years away, and in the interim those Universities that play an active part in the culture change dynamic influenced by the Beacons scheme will undoubtedly be far better placed to compete in a future competition. The University of Aberdeen has already taken an important step along this path, by investing at a strategic level in the advancement of Cultural and Public Engagement programmes, most recently in science related disciplines via its KT budget. It is this Public Engagement with Science Strategy that forms the subject of this proposal.

The background motivation against which all these initiatives and endeavours is placed continues to be a general recognition that members of the public should be better informed about the research and innovation taking place in the institutions which, largely, they ultimately fund, and which are often on their very doorstep. Furthermore there is an important subset of this audience, namely young people, who we have a vested interest in inspiring into science related subjects. The Universities play a pivotal role in this because who better to do the engaging than researchers themselves, taking advantage of the growing diversity of communications avenues and opportunities available? Added to this, it is often the case that individual researchers themselves have a natural creative interest in engaging an audience outside their normal remit, and these academic champions become crucial role models in pushing forward any Public Engagement Strategy and encouraging a wider circle of colleagues to become involved, amplifying the impact while devolving collective effort. At the University of Aberdeen we have a head start because of several important factors:-

- We already have a considerable outreach portfolio involving academic champions based at all the Colleges across the University
- We have a set of partner organisations that enjoy a well-respected UK-wide reputation
- We have a local economy based around arguably the biggest single science-related issue of the 21st century – Energy
- The topics we are at the forefront of researching are extremely relevant for our communities and economy today (e.g. obesity, dementia, etc)
- We have had, over centuries, a close and productive relationship with our local communities (e.g. philanthropy-fuelled development of Foresterhill campus) and with our international body of influential alumni

- We have a University Management Group that has taken a strategic decision to prioritise good practice in Public Engagement with Science from its Knowledge Transfer budget

3. Themes for Public Engagement

It is helpful to set out a strategy for public engagement against a backdrop of thematic anchors which reflect areas of our expertise. In accordance with this, we propose the following 2009 themes:-

- Health, Nutrition and Fitness
- Energy and the Environment
- Disease and Intervention

These are intended to be sufficiently general to cover many areas of our research excellence, although they are not intended to be exclusive to the point where promising ideas for potential projects would be discouraged. However, ideas that do link into these themes will allow the University as a whole to move forward with a more cohesive programme in 2009. Additionally, projects which are linked with the BA's 2009 theme of "change" might be particularly attractive for some funders and would help integrate with NSEW advertising and press campaigns.

4. Programme Anchors through the Calendar Year

A Public Engagement programme rarely becomes respected or recognised by focussing on one-off events and equally, a randomised delivery approach will not work either. Rather, it is our intention to drive forward our Public Engagement Strategy within a framework that is influenced by an annually recurring set of high profile local and National activities, in turn influenced by areas of research, teaching and innovation excellence within the University.

We propose four calendar anchors along these lines:-

- National Science and Engineering Week (NSEW) [usually around the 2nd week in March]
- The WORD Festival [usually around the 2nd week in May]
- Summer Science Activity [through late-June / July]
- Techfest in September [usually the middle fortnight in September]

The first of these, NSEW, is a national brand of the British Association for the Advancement of Science (soon to be known as the British Science Association) and provides a natural UK-wide focus for staging activity. We have an agreement in place from Satrosphere to host discovery days of activity, to which University staff and students can contribute. At present this is a blank canvas, although we have models from previous years' Discovery Days based in Satrosphere to inform good practice. The theme for NSEW2009 is "CHANGE" linking in with the celebration of Darwin200. We intend that NSEW and the funding opportunities around it should inspire ideas from staff and students across the University which can then lead to a diverse public outreach event.

The flagship University festival WORD has been keen to introduce a science strand for some time. We have an opportunity in 2009 to pilot this, introducing ideas for activity that play to the strengths and themes of the Festival. Events which provoke staff and students to communicate with visitors through the written or spoken word, and those which provoke debate and discussion, will be of particular interest. We also have the opportunity to invite writers with a science and society interest, and who themselves inspire debate and discussion among members of the public.

In the summer calendar there are various opportunities for public engagement. The Duthie Park project involving the Natural History Centre allows a high profile event to be staged in connection with the work that takes place there. There are the science festivals, such as Cheltenham and the new Glasgow Science Festival. July is the month of the Royal Society Summer Exhibition – a high profile event hosted at the Royal Society's rooms in London and showcasing 20 or so research exhibits based on competitive application that takes place from mid-September to mid-October. This year Dr Peter Fraser from the School of Biological Sciences exhibited on 'crabs in space'.

TECHFEST is a well established and respected science festival offering a mix of public lectures, debates, science shows, workshops and schools programme reaching up to 4000 children in one

week. Large and accessible city venues such as the Beach Ballroom and Leisure Centre are used to attract visitors. The University already contributes to TECHFEST via the provision of lectures and activities, and the SETPOINT office that coordinates the festival is located within the University Kings campus. We intend to build the branding of the University as a contributor to TECHFEST by way of a special entry in the annual programme. Efforts will be made to pull parallel activity into the programme, such as Doors Open Day, which this year brought around 400 visitors into the University science facilities but is currently unfeatured in the TECHFEST programme despite it taking place within the festival fortnight.

5. Resources, Sustainability and Influencing

The Public Engagement Strategy and central initiative within the Office of External Affairs is made possible due to the investment from the University's Knowledge Transfer budget. An operational budget for 2008-2009 has been awarded to Dominic Houlihan by the Scottish Executive's Science and Society Fund (£19k). In accordance with our model to have staff and students as the driving force behind our strategy, it is our intention to raise ongoing funding for events and activity through the opportunities identified across the Colleges for high-quality Public Engagement activities. Specifically, scope for funding to staff, students and partners are available from the following sources:-

- Research Councils – Current opportunities include BBSRC (up to £5k per project), EPSRC (PPE Award up to £20k on quick response, £20k+ otherwise, Senior Media Fellowship Scheme), RCUK (up to £2k per project focussed on NSEW), STFC (£500 up to £15k – Small Award (non-FEC), £15k to £100k – Large Award, Science in Society Fellowships)
- Wellcome (up to £10k broadcast awards, up to £30k for people and society awards, international engagement awards, £30k+ for awards involving arts)
- BA Scottish Executive Rural Awards (small grants <£1k for one-off events), the BA Regional Branch (budget up to a few £k to support strategy in line with BA aims and objectives), BA Sci-Com conference bursary scheme (£200 for London conference), BA Media Fellowships
- Academic Societies – For example, the Institute of Physics in Scotland (small awards up to ~£1.5k to support physics in the community), Royal Society of Chemistry (Small up to £250, Large from £500 - £5k)
- Sponsorship from Industry (e. BA and SHELL are principal supporters of Techfest, and OPITO recently awarded £100k to a UK National Schools lecture tour on energy)
- European Funds (€330 million for Science and Society theme)
- Royal Institution Schools Programme (small support for research talks into school)
- Scottish Executive (£30k max, max 3 per institution, >=10% cash from elsewhere)
- Initiatives that attract financial backing (e.g. Homecoming 2009)
- Various others, such as Internal Opportunities (Cultural Engagement Award, KT bids) and external bodies such as NESTA, Scottish Arts Funding Council etc.

We have a track record in some of these areas already. For example, Dominic Houlihan through Satrosphere was co-applicant on a recent €1M European Collaboration grant for Renewable Energy. A current bid is being led by DFH on child engagement while a CPD application has been submitted to the Scottish Government by Satrosphere and Sensation involving Jackie Heaton in Education. Against this we will foster ongoing links with Government departments forging policy in Science and Society, and those responsible for the funding decisions affecting the four Scottish Science Centres, which include Aberdeen's Satrosphere and Dundee's Sensation (Satrosphere's interim manager). Dominic Houlihan, as current Chair of the Satrosphere Executive Committee, will be pivotal in involving senior figures in these discussion including Cabinet Secretary Fiona Hyslop and Prof Anne Glover's office.

6. Staff and Student Involvement

We already benefit from the committed staff and students who participate in recruitment and engagement activity. In order to provide an environment where this enthusiasm can flourish we need to provide recognition and reward. The Public Engagement Strategy has at its core, some basic proposals to ensure this happens:-

- Science communication expertise within the Public Engagement Team will be shared across any person or group wishing to discuss or forward a fledging project
- The ASPIRE programme funded by the Robert's grant and associated College led training programmes will be expanded to provide modules for Science Communication and Public Engagement related skills
- A web resource providing details of grants, initiatives and partner news relating to Public Engagement with Science will be embedded as part of the University's new Website project
- Ensuring that activity in this area, including generally raising the profile of University Research and attracting grant funding for science and society projects, is suitably recognised within internal appraisal and promotion procedures.

7. The Role of Partners in Dissemination and Evaluation

Although our Public Engagement Strategy is a University initiative, many aspects are enhanced, and even in some cases, made possible, by collaboration with external partners. We propose to involve the BA as a neutral organisation, and indeed assemble a partnership via the local Branch committee which has representation across the local academic institutions and key partners, is inclusive to new collaborations and which can generally help share best practice and broker new projects. We are keen that our approach is recognised by stakeholders and recognised leaders in the field of Public Engagement with Science so for example we intend to report at the UK's primary Science and Society event, the BA / Royal Society Conference on Science Communication next to be held in London in May 2009.

Evaluation and monitoring is an important aspect of any strategy, and in the Public Engagement programme it applies at an individual event level as well as a global level relating to the tangible goals in our over-arching plan.

We can tap into the expertise of partner organisations for event evaluation, such as Satrosphere and Setpoint-TECHFEST while we will carefully monitor the success of the overall strategy by recording new initiatives and activity in accordance with the proposals set out in Section 9.

We should also be looking towards Public Programme models being fostered not only within the UK but in Europe and internationally since many instances of good practice, even in issues of local interest such as reaching rural communities, may come from afar.

In terms of the infrastructure available on our own doorstep, we can highlight the following partners that are pivotal in assembling and delivering a quality and varied programme of activity:-

- SATROSPHERE – has available floor space for “Stand-Up Science” style activity, wall space for mounting posters or photography displays, theatre space (capacity 60) for staging science shows or talks, workshop space (capacity ~10) including lab equipment, fume cupboard, sinks etc.
- PUBLIC PARTNERS – potential for city centre events. For example, we are currently seeking partnership with city-centre coffee outlet for the launch of an Aberdeen Café Scientifique. Locations such as museums and galleries are also useful partners to have on board for event delivery.
- TECHFEST – via collaboration with the festival we have access to a wide range of venues including the Beach Leisure Centre and Ballroom (capacity ~600). We can tap into their extensive collation of STEM providers, schools and community link-ups. We can also benefit from their considerable experience of evaluation and monitoring with regard specific events, a crucial element of successful engagement activity and one required by most funding organisations.
- ACADEMIC PARTNERS – for some activities, joint benefit may exist through collaboration with academic partners, either for our programme or the City. These partners may include the Macaulay Institute, Robert Gordon University and the Rowett Institute (throughout its merger with the University) as well as others further afield.

- Our existing University facilities including the Natural History centre, which has just been awarded the status of Eco-Centre, only the fifth in Scotland and the first non-residential University facility to achieve this. We also have various off-campus research facilities where scope exists for development or strengthening of community relations via research-related outreach activity.

8. Recruitment and Engagement – Added Value

There is already a considerable amount of activity taking place across the University in the areas of audience engagement with science. Many of these are linked to student recruitment but many are offered as broad engagement resources. Furthermore, resources will exist that are presently confined to one type of audience that could be widened, often with minimal effort, to engage a wider audience.

To this end, the role of promoting University teaching and research in a public forum can have a natural overlap with those efforts devoted to student recruitment. An important aspect of this Science Engagement Strategy is to ensure added value and mutual benefit is taken advantage of. Regarding our partners, many of our staff and students are signed up to the STEMNET Science and Engineering Ambassador Scheme (SEA), which provides the necessary disclosure and insurance cover to participate in schools-based events. There is always an interest in signing up more SEAs. Together with the database STEMNET hold for schools, it may well be that strengthening of this partnership could yield a mutual benefit.

9. Recommendations

The University Management Group is invited to approve the following concrete proposals which we would like to implement within our Public Engagement with Science Strategy. First and foremost is the Public Engagement Strategy Unit with overall responsibility for implementation.

We propose to create a Public Engagement with Science Unit within the remit of the Office of External Affairs consisting of new staff members Dr Ken Skeldon and Dr Sue Bird working alongside academic liaison champions from the science based Colleges Dr Andy Schofield and Dr Lynda Storey. Cross-cutting representation within the Cultural Engagement Strategy and for student recruitment will also feature within the Unit. We will set up a steering committee to discuss objectives, opportunities and progress with quarterly meetings. This team will be based on the strategy group that met on the 22nd August 2008. In addition regular gatherings of subsets of this team involving external partners will be called when appropriate.

Further to this we are offering the following set of proposals for implementation by the Public Engagement with Science Strategy Group over the following year and beyond:-

1. Embed an engagement approach across the new University web-design by implementing a “Jack the Jargon” philosophy to research pages intended for external consumption. Create added value to this by providing support and development via the ASPIRE programme to PGs/Early-Stage RAs to write these pages with accessible content.
2. Build an internal Public Engagement Matrix - a database of staff and students contributing to outreach activity, whether recruitment driven or otherwise.
3. Further the links with ASPIRE by providing three new training offerings in 2009 to PGs/Early-Stage RAs with a public engagement / science communication theme. These may include a Science Communication Module, Workshop on Writing a Press Release, Brainstorming Workshop on RCUK Grants for NSEW
4. Roll out a series of competitions, at least one of which will be open to ALL staff and students. These competitions will be targeted to our programme calendar anchors – for NSEW, for WORD, for Science in the Summer and for TECHFEST. Winning entries will have their ideas funded, and where appropriate, prizes will be offered for competitions where all entries are valid. These competitions would be funded by the KT grant.

5. Organise an annual Independent Research Fellows Lunch (some Fellows have a requirement to undertake Public outreach work and can act as role models for their co-workers and students)
6. Encourage research students through the ASPIRE programme to include a Lay summary of their work as an additional preface in their thesis, and possibly to begin this process via the earlier stage progress reports. These lay summaries could form the basis for a public resource, future exhibition.
7. Set up a city-centre Café Scientifique – Aberdeen is one of the few cities in Scotland not to have an active Café-Sci - a forum considered to be one of the best models for good practice in two-way dialogue about science.
8. Increase the number of Public Engagement grants secured across the colleges and seek links with industrial partners who might act as sponsors for future events.
9. Set up a regular dialogue with the Honorary Degree Committee with a view to making timely and strategic suggestions for STEMM-related candidates and embrace related possibilities for subsequent headline events.
10. Improve access to information for Public Engagement with Science activity, funds and general information by way of our online resource and through personal communication with the PE Unit.
11. Mount a presence at the UK's Science Communication Conference in May, talking about our "Aberdeen PES strategy" and citing examples of best practice.
12. Foster a mutually beneficial role with SATROSPHERE by targeting events there during National Science and Engineering Week 2009. Strengthen the University's activity and branding within TECHFEST by sponsoring a "University Sub-Programme" featured within the main Techfest programme.
13. Consult with the current Chair and committee of the BA in Aberdeen in order to discuss a potential neutral brokerage role for this committee involving a wide range of partners across the region.
14. Introduce a Science strand into the WORD Festival through a recognisable form of 'branding' and associated events programme, while being sensitive to the artistic and established format that personifies the festival.
15. Identify areas where partnership can lead to mutual benefit, for example via Techfest-Setpoint's All-Year Programme and their database of STEM providers and schools, or the coincidence of events already planned with existing high-profile events to amplify marketing / impact.
16. Reward staff and students in a tangible way for their efforts in outreach and engagement by exploring with HR ways in which this type of activity can be integrated into promotion and appraisal procedures. Other ways in which career enhancement can be fostered for students and staff include providing support for visits to science communication conferences, festivals and other events.
17. Create a novel intra-net based ideas-sharing platform where people with ideas for outreach projects can exchange information and experiences.
18. Catalogue physical resources (demonstration apparatus, instruments, workshop materials, exhibits etc) available for outreach activity, willing to be lent, borrowed, shared or otherwise involved in an engagement activity.
19. In conjunction with the development of the University campus we will aim to initiate collaborations on projects such as scientific instrument display and foyer engagement products where opportunities arise for science related exhibits or displays. The cultural engagement strategy will have an important role to play here, particularly within its remit to widen access and plan for new buildings such as the library to be accessible to all.
20. Evaluate and monitor our progress throughout and compile an ongoing report due for completion end-2009 highlighting achievements and progress set against the above targets and identifying areas for further concentration of effort.

10. Further Information

Further information is available from Professor Dominic Houlihan (d.f.houlihan@abdn.ac.uk) or Dr Kenneth Skeldon (k.skeldon@abdn.ac.uk) based in the University Office, Kings College. Information on the Rowett Institute's Knowledge Transfer work is available from Dr Sue Bird (sue.bird@abdn.ac.uk).

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