

**Report on the**  
**Newton's Heirs Science Policy Workshops**  
**2008/2010**

Newton's Apple is a neutral and non-partisan UK charity with a specific focus on science policy for the public benefit. The organisation aims to improve the process by which science is fed into policy, and the ways in which Government, businesses, charities and other bodies analyse, evaluate and use science to inform better policies. Its role is to act as a translator between the scientific and the policy-making communities thereby increasing the mutual understanding.

This underlies the objectives of the Newton's Heirs programme of "Introduction to Science Policy" workshops. The workshops provide an opportunity for scientists, engineers and technologists, particularly those at the beginning of their research careers, to understand something about the processes in Government and Parliament through which policy is created and given effect. The programmes were established by Newton's Apple and launched with an event in the House of Commons on October 2008. At the launch, the then Minister of Science Lord Drayson and the Government Chief Scientific Advisor, Professor John Beddington welcomed this much needed initiative. It is our hope that the workshops will increase the awareness of young scientists, engineers and technologists of the wider relevance of their research to society, and also indicate ways in which the Science, Engineering and Technology (SET) community can take an active part in the policy formulation processes by providing scientific evidence or advice to policy makers.

Although there are many training programmes offered to scientists and engineers in the areas of public understanding of science and public engagement and communication with the media, there were no similar opportunities for them to receive information about policy processes and how scientists can engage with them. The Newton's Heirs programmes and the accompanying materials, were intended to fill this gap by providing a vehicle by which understanding of the policy processes may be increased, and giving 'hints and tips' on how to communicate their ideas and research findings to policy-makers.

**The structure of the workshops.**

The Introduction to Science Policy workshops are based on, and developed from, experience we have gained from Workshops which Newton's Apple have provided as part of the NESTA Crucible Lab project, The British Association Communication Conference, the Women in Science - Policy and Networking Conference 2007, the British Association Festival of Science 2008 and other projects. Each Workshop lasts for about two hours. They are structured to provide participants with

information for from experts in the various fields of policy formulation. They also offer an opportunity for participants to discuss what they have heard and ask questions of the panel. Each Workshop begins with an introduction to the way that Government and Parliament are structured and how the policy and legislative processes are operated. This is supplemented by educational materials explaining the field of Science Policy. The latter take the form of two booklets "Science Policy Explained and Explored" and "How Policy is made – a Short Guide". In addition all participants receive "A Directory of useful Science Policy Websites". This Directory was developed as a result of requests from participants in the first Workshop and includes up-to-date web addresses for Government Departments and Governmental bodies, Parliamentary Select Committee, the major Learned Societies and professional institutions, Research Councils and Funding Councils, trade bodies, National Academies and the Medical Royal Colleges.

The introduction is followed by short talks from a panel of speakers who can provide information on Science policy from the perspective of Parliament, Government Departments, Learned Societies and either academia or industry. The panelists are experienced MPs and Civil Servants, as well as Policy leaders from major scientific societies or industry bodies. The panelists bring their own unique experience to the events and also contribute ideas about how scientists can communicate their research to a policy audience.

There is then a period for questions and answers and open discussion during which participants have the opportunity to question the panelists. They discuss science policy issues, how the science-into-policy process can be improved, and what the opportunities are for them to become involved. At the end of each workshop participants are invited to complete a feedback form. This encourages them to evaluate how useful the event was to them and also to give general comments. The number of people in each workshop was limited to 25-30 to allow a good opportunity for participation.

The two Workshops programmes plus the Norwich Workshops had a total of 320 participants. If the two Workshops delivered by Newton's Apple as part of the NESTA Crucible Lab Programmes are included we estimate that we will have reached over 380 young scientists.

### **The Programmes**

The first programme consisted of five workshops held in various locations within London between the Autumn terms of 2008 and the Spring term of 2009. In order to help cover the costs of development of the workshops and production of the material used a small charge was made to participants. For PhD and other postgraduate student this was £50 and for those in Fellowships or

employment it was £60. The profile of the participants is shown in Table 1. PhD and other postgraduate students made up 50% of the attendees with a further 7% in post-doctoral position. Surprisingly there were a significant number (40%) of attendees who came from a variety of bodies outside the Higher Education or Research Institute sectors. Organizations represented included Research Council HQ staff, charities, Learned Societies, the British Library, the British Council, scientific publishing and industry.

The second programme of four workshops was held again in London but for these events we were fortunate in being able to use House of Commons Committee rooms. These provided an excellent ambience for the workshops and we were able to deliver these Workshops free of charge. The participants profile for these four workshops was significantly different from those in the first Programme. (See Table 1). Over eighty percent were PhD students or other Postgraduate students and 10% were in Post-doctoral positions. There were few individuals from outside Higher Education Institutions participating in these second programme workshops.

**Table 1. The profile of participants in the Newton's Heirs programmes of Science Policy Workshops**

<b>Category</b>	<b>Programme 1</b>	<b>%</b>	<b>Programme 2</b>	<b>%</b>	<b>Both Programmes</b>	<b>%</b>
MSc Students	2	1.7	5	4.6	7	2.7
PhD Students	66	49.1	85	78.0	151	58.5
Post Doctoral fellows	19	7.0	11	10.1	30	11.6
Senior academics	7	1.8	2	1.8	9	3.5
Others	55	40.9	6	5.5	61	23.6
<b>Total</b>	<b>149</b>	<b>100</b>	<b>109</b>	<b>100</b>	<b>258</b>	

The primary targets of these two programmes were young people at the start of their research careers as we felt that they would obtain maximum benefit from the workshops and the insights gained would influence them for the rest of their careers. The workshops did reach these intended targets who, in all, made up over 70% of participants. Although the great majority of the participants came from institutions and other organizations in London and the Home Counties we did have delegates coming from Southampton, Canterbury, Oxford, Swindon, Cambridge, Peterborough, Warwick, Bristol, Cardiff, Aberystwyth, Edinburgh, Glasgow and Paisley.

### **The Regional Workshops**

As a pilot for a programme of regional science policy workshops two events were held on the 18<sup>th</sup> February in Norwich in collaboration with the Science Graduate School of the University of East Anglia. The format of each was the same as the London workshops except that there were four panelists and each event lasted for 3 hours. The participants were enrolled by the University from PhD students and post doctoral researchers in the University and also in the Norwich Research Institutes. There were 62 participants and all but three were PhD students.

### **The Feedback**

Except for the first, October 2008, workshop all participants were asked to complete and return a feedback form in which they rated the improvement of their knowledge and understanding of the Policy processes as a result of their attendance. They were also given an opportunity to comment on the event and suggest improvements. Participants were asked to place their understanding of Science policy and the processes into one of the following four levels before and again after the event:

1. No understanding
2. Some understanding
3. Good understanding
4. In-depth understanding

As will be seen from Table 2, the great majority of participants (over 90%) came to the workshops claiming no, or only some, knowledge of science policy and the policy processes.

However looking at the three programmes separately we find that there were fewer participants claiming to have no pre-existing knowledge in the first programme in which just over half were PhD students or post doctoral researchers (24.4%), compared with those in the second programme or the Norwich workshops in which most participants were PhD students or post-docs

(37.4% and 37.0% respectively). Very few participants claimed come to the workshops with a good (7.5%) or in-depth (0.8%) knowledge of science policy. Again the majority of these were in the first programme.

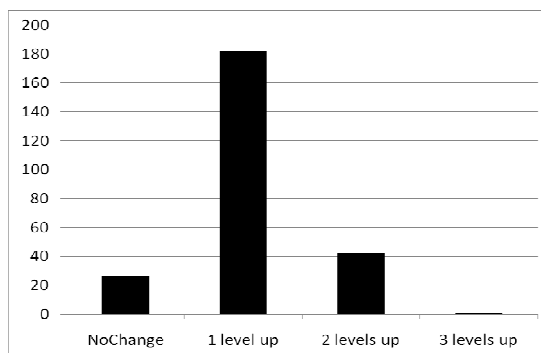
The participants assessment of their level of knowledge after the workshops indicate that only 26 (10.4%) considered that their level of understanding had not increased but 14 of these came to the workshop already with understanding at the 'Good' or 'In-depth' levels.

**Table 2 Impact of Workshops on understanding of Science Policy**

<b>Level of Knowledge</b>	<b>Before Workshop</b>	<b>%</b>	<b>After Workshop</b>	<b>%</b>
<b>No understanding</b>	61	32.2	0	0
<b>Some understanding</b>	149	59.4	62	24.7
<b>Good understanding</b>	19	7.6	167	66.5
<b>In-depth understanding</b>	2	0.8	22	8.8
<b>Total number of returns</b>	251		251	

The majority felt that their understanding had increased by at least one level - 182 (72.5%) and in some cases by two - 42 (16.7%) levels. One individual claimed an increase by three levels (figure 1).

**Figure 1. The Impact of workshops on the level of understanding of Science Policy by Participants**



The comments received from participants on the feedback forms were generally good. The few criticisms received were mainly concerning the suitability of the venue. Some of the comments we received are included in the appendix to this report. In a number of cases constructive criticisms were provided regarding the development of the workshops and provision of materials. We took note of these and responded positively to them. For example as a result of requests made during the first two workshops we developed our “Directory of Useful Science Policy Websites” which has been supplied to all of the participants since then. Similarly it was as a result of requests for a more detailed account of the way the policy is made and passed into Law that we produced our “How Policy is Made – A Short Guide”. This too has been provided to workshop participants.

### Conclusions

From the interest that we have received from the SET community it is clear that there is a growing interest in how science is used by Government in formulating policy and a demand for events such as our workshops. In almost all of our workshops we received more applications than we could accept. We decided to limit the numbers to 30 for reasons given above. It is also clear from the discussions during the workshops and the feedback received from participants that the workshops have provided them with a good introduction science policy making processes and have given them guidance about how they may engage in them.

One drawback of the first two Programmes of workshops was that, of necessity, they were London-based and this limited their availability to mainly individuals in and around the capital. There were however a number of participants who did come from farther afield. Some of these indicated that they thought the Workshops should be available in the regions as well. We therefore ran the Norwich Workshops as a pilot for the idea of regional workshops. We found that although rather more logistically complex, with the excellent collaboration of the Science Graduate School in the University of East Anglia, such events were quite feasible.

It is our intention to continue to run our workshop programme during the Autumn and Spring terms in London but also to engage with others where possible to run further regional events.

### **Acknowledgements**

Newton's Apple is pleased to acknowledge the invaluable help of a number of individuals without whom these workshops would not have been possible. Firstly we are grateful to the two former Directors of the organization Ms Mia Nybrant and Ms Gillian Pepper and two interns Jashan Carpen and Ben Cottam who, with the Newton's Heirs steering Committee under the chairmanship of Branwen Hide, developed the framework of the workshops and produced " Science Policy Explained and Explored", the first of the publications accompanying them.

We are also indebted to our panelists who participated in the Workshops and who gave freely of their time. The Parliamentarians - Ian Gibson, David Curry, Brian Iddon, and Willie Rennie; those from Industry - Philip Wright (ABPI) Aisling Burnand ( BioIndustry Association) and Louise Hendry (Pfizer); the Civil Servants - Sarah Haywood (BIS), Robert Doubleday (BIS), Tom Wells (BIS), Yvonne Boyd (DEFRA) and Monica Darnborough (Formerly DTI); and those representing the Learned Societies - Alan Malcolm (Institute of Biology), Chris Kirk (The Biochemical Society), Stephen Benn (The Royal Society of Chemistry) and Robert Massey ( The Royal Astronomical Society)

We are pleased to thank those organizations who provided financial support for the programmes – UCB Celltech, the BBSRC, the Science Graduate School, University of East Anglia, and an anonymous donor.

Finally we thank those organizations which generously provided venues for some of the events; the BIA, the Royal Society of Chemistry and the Royal Astronomical Society.

## APPENDIX

### Comments from Participants in Newton's Heirs workshop Programmes 1 and 2

"Great – this should be more widely offered – e.g. in Universities and career services."

"I liked the input from different parties which gave different perspectives"

"The discussion was extremely helpful and Willie (Rennie) gave a good step-by-step scheme for translating scientific work into policy."

"A very good and worthwhile workshop. Thank you."

"Getting the MP's perspective was very enlightening – really useful and interesting"

Interesting talks from a variety of speakers from different backgrounds was good."

"I hadn't realised how important scientists were in influencing policy."

"Booklet clearly written outlining major players."

"Nice span of viewpoints. All speakers good and interesting. Thanks for the Website lists and participants pack."

"All speakers very good and informative."

"The Introduction presentation gave a clear picture."

"It was very interesting and useful to hear from people involved in different aspects of the policy process."

"Still find the process by which science policy is implemented confusing but a very helpful introduction."

"The introduction to structures was very useful, also talk from Stephen Benn very enlightening."

"Good range of speakers, welcomed the opportunity to ask questions."

"I liked the session on 'my experience of science in Government.'"

"I greatly enjoyed all parts of the workshop, especially the discussion."

“Good additional material.”

“I enjoyed the Civil Servant speaker’s presentation and views.”

“I liked going through the different Government departments and what they do.”

“As a young researcher at the beginning of my career, I particularly liked the first introductory talk as this was most relevant to me.”

“I particularly liked the question/discussion time – it could have been longer.”

“The recommendations for how to get involved were very useful – the Policy Adviser for the Astronomical Society gave useful information.”

“I will find the ‘Directory of useful Science Websites’ particularly useful.”

“The materials provided will be very useful for me and I will look up several of the reports mentioned.”

“The debate & the paper materials were useful and interesting.”

“Great to get viewpoints from so many experienced people.”

“Liked Brian’s (Iddon) talk on his and his comments and the discussion.”

“Well worthwhile, Thank you.”

“I liked the questions – very informative broad discussion.”

“The open discussion at the end of the session was very interesting and informative.”

I liked hearing about how the policy process was explained with first hand examples.”

“I loved the comments from the Royal Society of Chemistry science policy representative. Very good contributions from all the speakers.”

“I appreciated David Curry’s realistic appraisal of the process.”

“I liked the healthcare policy issues discussed – dementia and diabetes. I would like to know why these issues get ignored given the economic & societal advantages to research in these areas.”

“The introduction and David Curry’s initial talks were particularly interesting.”

“I enjoyed the fact that the panel was composed of 4 people speaking from different points of view.”

“Yvonne’s (Boyd) talk on the civil service was extremely useful to me.”

“Useful information pack from Newton’s Apple; it will be good for future reference/contacts.”

"A good introduction – thank you to the speakers, truly extraordinary people."

"Discussion session at the end was most useful; able to ask specific questions – speakers opinions very valuable."

"I liked learning about the roles of scientists in Government."

"I was pleased that we heard from a good range of perspectives: elected, civil servants and external."

"I liked all parts."