

## Professor Wendy Hall CBE FEng, for FST discussion on 7th February, 2007

### Speaking Notes

- Brief introduction to CST:
  - UK Government's top level advisory body reporting direct to the Prime Minister, independent members from academia and industry, but works with Government on many strategic S&T issues. Recent reports include :
    - 'Health Impacts', which set out recommendations on how to ensure that all Government departments reflect health issues when developing and delivering their policies.
    - On the 'Better use of personal information' which described how the use of personal data by government offers enormous benefits, but that risks must be addressed in order to secure these benefits. Pleased to see the Government's recent proposals on data sharing which heeds the advice given.
    - 'Policy through dialogue' which encouraged government to do more to engage the public in the development of science and technology based policies, or risk jeopardising the economic and social gains expected from the ten year investment framework for science and innovation.
    - Also delivered advice through responses to consultations (including on then RAE and Cooksey Review), and writing to/meeting with senior officials and ministers. CST has written to the Chancellor on how links between the service sector and the university base could be improved, and how public procurement could be used to stimulate innovation in businesses, particularly in SMEs.
- CST set up the 'Research Endeavour' subgroup to identify a range of future challenges to the UK in maintaining an excellent research base. The critical issues that came out of initial discussions fell into three groups, concerning the people ('who?'), the structure ('how?') and the research agenda ('why?').
- No organisation or body charged with taking a 20-30 year view of the impacts of current policy discussions on academic researchers, and that CST could take such a leading role. On these timescales it will be essential for the UK to develop researchers at the start of their career, in order to maintain its excellent science base, allow the economy to allow compete in global markets, and for the benefit of wider society (through education, media etc).
- Pleased to note the Royal Society's work on whether the overall Science, Technology and Mathematics Higher Education provision in the UK will be fit for purpose by the second half of the next decade dovetails nicely with CST's work.
- CST has spoken to a group of researchers at the early stage of their careers, and heard of some of the challenges the UK will face from a commissioned study that spoke to some of the key players. On the subgroup we also have our own perspectives, from different parts of the research system, and internationally. I would like to present some of our emerging conclusions and recommendations to you, and will welcome your thoughts in the ensuing discussion.
- We must make a career in academia an attractive option for the best students, in schools and universities. At the same time, we must recognise that only a minority of

even postdoctoral researchers will secure a permanent position, and that going on to jobs outside of universities is not some sort of last resort, or failure.

- Become clear how important it is to take a global perspective, with excellent research being undertaken across the world: people and research funding are portable. The UK must forge strong links with other countries and encourage interchange of people and ideas.
- Sir Gareth Roberts reviewed the supply of people with science, technology, engineering and mathematics skills in his report for the Chancellor in July 2002. The review covered from schools to careers. It found that employment in higher education was not an attractive career path for many of the brightest PhD graduates, and had concerns over the quality of some taking up employment as postdoctoral researchers and then as permanent members of academic staff.
- There has been much progress since the Roberts Review, with increased PhD stipends and improved training for postgraduates. However, it has become evident that much remains to be done, particularly at the postdoctoral level.
- We welcome and support RCUK's focus on the careers of researchers. The recent RCUK strategy sets out some elements that can be key elements of a framework, which could be used by all research funders. This evening I will concentrate on particular aspects we see as being important.
- Establishing a national framework for research careers, which has the support of funders, employers, HEIs and researchers, is crucial to improving the situation many postdoctoral researchers are in. Such a framework would necessarily be flexible and non-prescriptive, but act as a guide, encompassing the possible career paths for researchers from PhD level, both within academia, and through the various 'exit points' to other sectors. At stages along the possible career pathways, the framework would give guidance on
  - Levels of responsibility that should be delegated at particular stages
  - Career guidance - in particular the range of options available and their requirements
  - Opportunities for relevant training, and development
  - Possibilities for placements/internships in other sectors or disciplines
  - 'Exit strategies' for those leaving academia
- Some specific points we believe could make a real difference:
  1. Giving researchers greater independence and more responsibility early on will make a research career more attractive. Responsibility can come from giving supervisory roles in the lab, and allowing postdocs to apply for wider range of grants (*no a priori* reason why post docs should be restricted from being a principal investigator). Fellowships are an excellent method of funding researchers giving them independence - we recommend more. Fellowships could also be offered by HEIs. More generally, should move away from strong ties to supervisor, and allow researchers greater independence.

2. Future advances in science and technology will come at and across traditional disciplinary boundaries. Give grants to those crossing disciplines (widening participation in 'transitional grants' that do exist); widen opportunities to learn from other fields at early stage of education and research.

3. The skills postdocs have can be valuable outside of academia, but are often not recognised (both by postdocs and their potential employers); also, postdocs often do not have complementary skills other sectors look for. Training/development essential, but greater use of placements/internships etc would be more effective. Support from Government, industry, RDAs as well as funding bodies required.

4. Researchers from overseas can be valuable to establishing the UK as centre for innovation, but must not lose sight of need to develop an indigenous supply. Must not be more barriers to those wishing to come to the UK. Fellowships should be open to non-UK/EU nationals to some extent.

5. Researchers themselves also have a responsibility to take control of their careers. But they need an effective voice as strategies are developed and implemented, at a national and local level.

- An overarching issue is how universities and VCs think of their research staff, in particular those at the start of their careers. As universities move to a new paradigm with contract research staff, there is an opportunity for mindsets to change.
- CST will be publishing a report detailing these ideas in March/April. Implementation should be through a concordat involving RCUK/UUK/HEIs. The “concordat and code of practice for career management of research staff in the HE sector” is currently being revised with a UK Higher Education sector working group being coordinated by RCUK. We will feed in our conclusions and recommendations to that forum.