

## ASTRONOMY FORUM: 23 JUNE 2009

1. In attendance:

Professor Andy Fabian (Chair); Professor Martin Ward (Durham); Professor Rob Ivison (Edinburgh); Professor Tom Hartquist (Leeds); Professor Yvonne Elsworth (Birmingham); Professor Alan Hood (St Andrews); Professor Robert Kennicutt (Cambridge); Professor Stephen Smartt (Queens University Belfast); Professor Mark Bailey (Armagh); Professor Simon Garrington (Manchester); Professor Michael Smith (Kent); Professor Chris Collins (LJMU); Professor David Wands (Portsmouth); Professor Jim Hough (Herts); Professor Pat Roche (Oxford); Professor Don Kurtz (UCLan); Professor Clive Tadhunter (Sheffield); Dr Christian Knigge (Southampton); Professor Mark Cropper (UCL – MSSL); Professor Alan Aylward (UCL); Professor Glen White (OU / RAL); Professor Mike Merrifield (Nottingham); Professor Mark Lester (Leicester); Professor Tom Marsh (Warwick); Professor Lyndsay Fletcher (Glasgow); Professor Steve Schwartz (Imperial); Professor George Efsthathiou (Oxford); Dr Robert Massey (RAS)

2. In attendance 1300-1330: Professor Ian Diamond, RCUK

3. The Chair opened the meeting and congratulated Professor Kennicutt on being awarded the Gruber Prize.

He also drew the Forum's attention to the latest set of ScienceWatch citation indices covering 2008, which indicate that the UK published the second highest number of space science papers in the world (see [www.sciencewatch.com](http://www.sciencewatch.com) for details).

4. Professor Ian Diamond, RCUK

Professor Diamond discussed the current situation for science research funding. His key points included:

- RCUK were incredibly lucky in benefitting from the only remaining ring-fenced Government budget but no one knows what the situation will be beyond 2011 – things could be harder at that point
- The research community should continue to make its case based on the strength of its science
- RCUK sees knowledge transfer and economic impact as effectively equivalent
- But 'non-academic' impact includes the effect on wider society – the RCs have increased their commitment to this
- RCUK is committed to supporting research, including 'blue skies' research
- Government puts £6 bn per annum into research and wishes to see benefits – research community needs to get better at harvesting tangible results without compromising quality of science
- If a research grant proposal has no economic impact case this will not disadvantage the application but if one exists it should be cited and researchers should have a strategy in place to exploit that potential

- He expressed his strong support for the proposed brochure on astronomy in the UK and endorses the 'STEM attractor' argument

An extensive discussion followed. Attendees at the meeting raised a number of points:

- Is there a danger that grant applicants will distort applications by developing speculative cases for the economic impact of their research proposal? *In this case applicants should write 'N/A' – but make the commitment to exploit any impact that emerges as a consequence of the research*
- What is the RCUK preferred balance between blue skies and directed research? *There is no right answer – but we have seen an increase in funds for responsive mode research. These are not under threat until at least 2011.*
- Does the Treasury ask why money is spent on specific projects? *Yes – and the answer is that they are essential for great science. Research is not directed by the Government. The priorities set by RCUK and Government may match, but they were developed in consultation with the research community. Sometimes there is a need to manage these, as the 'big questions' deserve research funds. The great shame is that the success rate for grant applications is under 20%.*
- Will science that doesn't fit with UK facilities (e.g. using telescopes in North America) get funding? *No answer today - this will be checked.*
- The 20% success rate is a real issue. *This is true – and not just for the astronomy community.*
- There is undue pressure to engage with the new innovation campuses. *This certainly does not always make sense. The campuses have real benefits (e.g. they encourage clusters of SMEs) but researchers should not be rushing around to find reasons to be there.*
- What is the link between RCUK and the individual RCs? *The Chair of RCUK has no executive authority and cannot instruct the RCs, but wants to be seen to be supporting research.*
- The structure of STFC is an issue, in that it combines the management of facilities with the management of research grants. *This is one view – the Director General of Research does not want to change the structure of the RCs at this time.*
- The transfer of STP from STFC to NERC was agreed but has still not taken place. *I will ask about this.*

## 5. Current situation update

The Chair of the Forum explained that no STFC representative could attend as the meeting clashed with STFC Council. The next day would see an announcement of additional savings in the STFC budget that were widely anticipated and partly a consequence of exchange rate pressures. STFC had also indicated that there was no prospect of 'new money' at this point but that the creation of the new Department

for Business, Innovation and Skills (BIS) was a positive development. The RC also plans to approve its strategy document in the near future.

In the ensuing discussion, attendees made a number of points:

- The enthusiasm for innovation campuses sits against their high cost – space in them is twice as expensive as in South Kensington. Does this make them vulnerable in the current recession?
- STFC needs to find about £20m via a cut in travel and overheads – how will this be realised?
- Is the commitment to High Performance Computing under threat?
- Will the creation of BIS delay the transfer of STP to NERC?

## 6. Grant outlook

Professor Cruise updated the Forum on STFC research grants. The current round is the peak of the 3 year cycle and is a slight increase on 2008-9. The current commitment to existing grants (including the FEC component) includes more PDRAs than can be covered by the funds available – which may lead to a sharper taper for these awards.

Discussion points included:

- The final years of 5-year rolling grants (years 4 and 5) offered to groups can be at a smaller level than their current commitments – but STFC can withdraw the offer if this new level is turned down
- There are still delays in the awarding process, but some signs of improvement
- Once STFC Council agrees the budget, the grants should be unlocked

## 7. Astronomy Facilities Reviews

Professor Rowan-Robinson presented the Ground-Based Facilities Review he is undertaking on behalf of the astronomy community and STFC. The Review will make the case for UK astronomy from scratch and includes key decisions such as participation in the E-ELT and SKA projects. The Review is taking place in the context of a 20% increase in the ESA subscription and the consequent budget pressures.

Issues for consideration include:

- The strategy for the northern hemisphere given that the bulk of facilities are now in the south and the EUCLID, LOFAR and e-MERLIN telescopes need optical counterparts
- Can the UK receive time on facilities like Subaru in return for instrument provision?

- Should JCMT continue?
- Should the UK sign up to CCAT?
- How much support should there be for R+D for the SKA?
- What about other facilities like PAN-STARRS, SuperWASP, the LSST and HESS?

Respondents are asked to rate facilities and their contribution to science and consider the balance between ground- and space-based astronomy. Professor Rowan-Robinson hopes the review will then carry real weight with STFC.

Questions from the attendees included:

- What are the criteria for prioritisation? *There is an opportunity to express a view on this.*
- There are some timing issues e.g. SKA will not be operational during the timescale of the review. *There is time for the UK to express a view on this – but it may not match the conclusions of Astronet.*
- How are special interest groups tackled? *Their views are considered. The likely procedure will be to consider the larger (more expensive) items first and move on to the smaller ones.*
- Why not do small first rather than see a commitment to larger projects remove funding for smaller ones? *We need a tradeoff – and simply can't keep all the small facilities running until 2020. In any case, no decision will be taken until the Review reports and also depend on the budget beyond 2010/11.*
- How will the review cover the whole community? *Everyone can respond, but some groups may find it less relevant than others.*
- Should the Review be written to demonstrate impact objectives? *This is difficult for ground-based astronomy but is vital and should also be covered by the proposed brochure.*
- How does this fit in with the STFC Near Universe Astronomy Panel (NUAP) and Far Universe Astronomy Panel (FUAP)? *There is some cross membership and the Review report will go to both as well as PPAN.*
- There is concern that the UK strength in astronomy is under threat and could slip below 2<sup>nd</sup> place in the world by 2015. *The Review will not be recommending large scale closures but will see a switch to more southern hemisphere work – and suggest that investment is weighted towards productive facilities.*
- What if the Review priorities don't match those from NUAP? *Hopefully they will.*
- How much extra investment is needed for the UK to participate in the E-ELT and SKA? *We need an extra €10-12m / year for the E-ELT (on top of ESO subscriptions) and €14m / year for SKA (although radio astronomers would like more). At present we could only sign up to one of these, so will need to bid to the RCUK Capital Fund.*

## 8. Ground-based astronomy brochure

Professor Fabian introduced this proposal, intended to be the astronomy counterpart to that recently produced by the particle physics community. He explained that the brochure will require input from the members of the Astronomy Forum and the Royal Astronomical Society and should include a contribution from the STP sector. It will also highlight links with industry.

Producing the brochure will depend on the input of the astronomy community, including some members of the Forum.

Some discussion followed on the scope of the brochure, specifically whether it should also include space-based observational astronomy. Forum members also stressed that hard evidence is needed to make a convincing case for economic impact.