

ASTRONOMY FORUM: NOTES FROM 17 SEPTEMBER 2012

In attendance: David Southwood (Chair), Dave Parker (UK Space Agency), John Womersley (STFC), Colin Vincent (STFC), Andrew le Masurier (STFC), Andy Lawrence (ROE), Mike Cruise (RAS), Pamela Mortimer (RAS), Kim Clube (RAS), Robert Massey (RAS) and Forum members from UK universities.

The Chair opened the meeting at 2 p.m.

1. UK Space Agency: Update and forthcoming ESA Ministerial

Dave Parker gave an overview of UK Space Agency activity, with a particular emphasis on preparations for the European Space Agency Ministerial this November, where the 20 ESA members will come together to agree the funding for the mandatory and optional programmes over the next three to five years. He also discussed 'live' policy issues such as the role of the EU Commission in key space programmes and flagged up the UK Civil Space Strategy published this July.

His presentation can be downloaded from

http://www.ras.org.uk/images/stories/Astronomy_Forum/UK%20Space%20agency%20astronomy%20forum%20sep%202012.ppt

Forum members raised a number of points in response (Dave Parker's replies are in italics):

- The intention is to grow Harwell staff from 20 to 100. What is the strategic thinking behind this plan?

We want Harwell to be the site for the telecommunications work of ESA, to take advantage of the growth in climate science activity and to be part of space exploration such as the sample receiving facility. There are good commercial opportunities connected with this proposal.

- How is the budget for the UK Space Agency allocated?

It comes from the 2010 Spending Review. It supports our existing commitments but not new optional programmes. Options for new programmes are now being considered by Ministers.

- Is this process shaped by the 'dual key' with STFC?

Yes. STFC influences our decisions through its inputs to our advisory structure including the Space Leadership Council which advises the Minister. Science is also carried out for other communities, e.g. those funded by NERC.

(Chair) The Space Agency sets the national space strategy, but the (astronomy) science strategy comes through STFC

- Do Agency activities require additional funding from STFC?

The Agency funds space instrumentation: STFC funds the exploitation. All funding of ESA (including Harwell) is from the Agency. ESA programmes extend beyond the current

Spending Review period. About half of the Agency's funding is for scientific activities. Our support for the commercial sector is via co-funded projects

- There is very little backing for preparing for the scientific exploitation of new missions e.g. Euclid and as a result we are losing intellectual control to other countries. The STFC consolidated grant system is not appropriate for this.

We are open to discussions on how to co-fund science of this kind with STFC.

2. STFC Programmatic Review

John Womersley (CEO, STFC) gave an update on the 2012-13 Programmatic Review of STFC activity and facilities. He explained that the needs analysis and data were in hand, ready for a possible (early) Spending Review in 2013.

This presentation (including the policy on Open Access) is available at http://www.ras.org.uk/images/stories/Astronomy_Forum/Astronomy%20Forum%20Sept%202012%20STFC.ppt

In the discussion following the presentation Forum members made the following points (John Womersley's replies are in italics):

- The astronomy programme is under pressure due to a slowly declining budget.

Science Board has no high level partition between astronomy, particle and nuclear physics. We are looking for a balanced programme, where small projects sit alongside larger ones. Outcomes like the reduction in activity on the island sites are not a consequence of a shift in funding between areas of research.

- Will there be a feedback process on the Review?

Yes, with the STFC advisory panels. The schedule includes a place for feedback, but this could be constrained by an early Spending Review.

- Does the role of the advisory panels include giving advice on the balance between institutes, facilities, studentships etc?

Yes, and we appreciate hearing the community view on this.

- The UK Space Agency will follow the national science strategy – so astronomy priorities will come in from STFC.
- We need a science strategy that doesn't have projects as its starting point, as people are naturally tribal around them.
- We must make sure that the STFC advisory panels are identifying science priorities and pass this advice to the Agency.
- I disagree. Astronomers are multi-wavelength – we use all the tools at our disposal, but reviews force us to think about projects. How do we avoid the unintended consequences that arise from this?

(Both John Womersley and Dave Parker): The strategy is to tackle questions using e.g. data from existing telescopes as well as new international missions. Putting things in space is a major investment decision.

STFC and the UK Space Agency have more interfaces than in the past and there are many areas where we are working well together. Please bring us examples of any problems that you're concerned about.

- After the formation of the British National Space Centre (BNSC) we had a space-based plan and a ground-based plan (the RAS was involved in this) – could we look at this again?

The STFC Programmatic Review and the inputs from the advisory panels will cover much of this territory.

- ESA did exactly that – it identified science themes without missions and developed ‘Cosmic Visions’ as a background plan on which missions fit in.
- We need a £100m ‘elevator pitch’.

David Willetts has requested and received a list of areas the UK should be investing in and space is on it as well as e.g. high performance computing. His request was for ‘pitches’ that were half ‘Tomorrow’s World’, half business plan.

3. STFC Island Telescope Sites

Andy Lawrence (ROE) opened a discussion on the future of the UK Infrared Telescope (UKIRT) and James Clerk Maxwell Telescope (JCMT), both based on the island of Hawaii and set for closure in 2013 and 2014 respectively. In particular he drew attention to UKIRT’s closure a year in advance of JCMT and the funds required to continue its operation for a further 12 months.

The presentation is available at http://www.ras.org.uk/images/stories/Astronomy_Forum/UKIRT-Forum-talk.pdf

The Forum took a keen interest in this and raised a number of points in response. John Womersley also took part in the debate.

- Why can’t we use the money required to decommission UKIRT to keep going for that time?

Provided someone was willing to take over the liability e.g. the University of Hawaii or the University of Edinburgh, then this could be done.

- What are the legalities of this – what is possible? We need to get more time for other options.

The lease / sub-lease for the site requires that if a telescope on Mauna Kea is unused then it must be decommissioned and that the site must be restored to its natural state. We might be able to negotiate a short term mothballing but need to work out how serious the other (longer term) options are.

- There is a £318k saving from decommissioning the telescopes together – this seems a large sum.

This may be the case but it isn't entirely straightforward.

- No one has decommissioned a 4 m telescope before. It is in STFC's interest to negotiate with the University of Hawaii on this.

We are in the process of doing this. A related process has been taking place on La Palma (i.e. the change of the UK's status as a partner) and we will share that experience.

- There is a concern that STFC is focusing more on its liabilities than its assets.
- (Chair) The OpEd article I wrote in Nature discussed some of these issues. When it appeared there was no mention of the telescopes on Hawaii, although these had been in my earlier drafts. It seemed easier to discuss space cooperation than ground-based facilities. We are at a point where it is no longer possible for the UK to lead on major projects – and instead are reliant on being a minor partner in international programmes. The question then is how we can exercise leverage from that position.

The space programme benefits from bilateral agreements as well as involvement in ESA. This is part of a deliberate strategy, in most cases with input from the community, who ranked involvement in E-ELT as a top priority. UK science benefits most from participation in international facilities.

- With the strong focus on E-ELT, the UK could end up with 'jam in the next decade' and not be able to do science in the meantime.
- (Chair) We need to learn from other examples, such as when RAL stopped being an accelerator lab and that work moved to CERN.

(John Womersley) There is a change in the scale of science. I agree that we need to think about how to maintain a broad programme that includes small facilities – and how to avoid these being squeezed out.

- In astronomy (in contrast to particle physics) it is still possible to have a 'one man show' with small scale facilities
- The public message may be that the approved SCUBA2 programme at JCMT will be delivered – but in practice scientists have been told to cut this.

4. Open Access (Mike Cruise, RAS; Andrew le Masurier, STFC)

Mike Cruise (RAS Treasurer) presented a paper on the changes to publishing that will arise as a consequence of the Government decision to move to an Open Access model, setting out the various charges and the timescale for implementation.

The RAS presentation is available at

http://www.ras.org.uk/images/stories/Astronomy_Forum/Astronomy%20Forum%20RAS%20Open%20Access.ppt

- The APC for Monthly Notices is £1400 – can we break down the activities of publishers by cost? How much would it cost to have a peer review quality stamp on papers uploaded to the ArXiv repository?
- There is a conflict of interest – how much of the income of the RAS is derived from its journals?

55% of RAS income comes from publishing. The cost of a quality stamp would be at least a few hundred pounds.

- How is the rest of the world approaching this?

The US and its governmental organisations are resisting a fast implementation of Open Access. In Europe a directive may have little effect on publication.

- Astronomy and Astrophysics does not charge authors for publication. Monthly Notices may be hit hard by this change.
- Is Open Access compulsory? People expect to read papers in ArXiv and Monthly Notices is the backup.

Andrew le Masurier summarised the findings of the Finch report on Open Access Publishing and the Government response, explained how RCUK would implement the changes, in particular around the allocation of funds to universities to cover Article Processing Charges (APCs).

- Can we choose to publish in a journal that offers rather than insists on Open Access?

(Andrew le Masurier) Yes.

- Can't we have a button to send an invoice for the APC to BIS or RCUK? There are problems associated with the central control of these funds by universities.

(Mike Cruise) This looks like a cynical move on the part of the Government. The APC funds may well be turned off in the medium term.

(Andrew le Masurier) We did look at other models, such as including the costs in research grants, but the publication costs often arise years after the research grant has finished.

- Astronomy is ahead of the curve with e.g. ArXiv. Can the RAS devise an OA model that serves the astronomy community and preserves Society income?

The RAS is developing a business plan that has this in mind. High-quality journals may continue as subscription journals for a long time to come. The question is whether there is a sustainable commercial model for high-impact journals – if the community is still compliant with the OA requirements.

- What about the past – and access to old papers?

That body of material is mostly made available in repositories.

- Is there similar pressure to make data fully accessible? In the case of e.g. LOFAR these are voluminous!

(Andrew le Masurier) RCUK / STFC data policy is a separate question – a specific policy is in preparation.

(Mike Cruise) The costs of this to data producers could be huge.

- Surely (as in Freedom of Information requests) we can argue that the cost of data release is unreasonable?
- We had a FOI request for data – and had to comply.
- The OA changes could be tilting a level playing field and seriously disadvantage the UK.

(Mike Cruise) The UK is a country with a major publishing industry and it surprises me that we are leading this change.

- Peer review / expert commentary is worth paying for.
- As an established researcher peer review is less important – my scientific peers trust the value of my research
- A full repository route (i.e. no publication in journals and no peer review) would be hard for lesser-known and early career researchers.
- But the Astrophysical Journal (ApJ) and Monthly Notices publish 80-90% of submitted papers. They should have a much lower acceptance rate.
- The point has to be made again and again – most poor papers aren't sent in to journals in the first place.

(Chair) The vast majority of papers get input from referees and are better for it.

5. Update on political activity

The Chair updated the meeting on his recent meeting with Tom Harris, MP for Glasgow South and a great enthusiast for astronomy. Together with the RAS Deputy Executive Secretary, he will be meeting Giles Chichester MEP in the near future.

The RAS Deputy Executive Secretary highlighted correspondence between the Society and Andrew Miller MP on opportunities for education arising from new research projects and with Julian Huppert MP on immigration and visa issues.

6. Any other business

Delegates asked for the next Forum to take place in the Council Room rather than the Lecture Theatre and the Chair agreed to this suggestion.

The Forum closed at 4.50 pm.