ASTRONOMY FORUM

Note of meeting held 21/01/09 in the RAS

1. Attendance

Andy Fabian - RAS (Chair)
David Elliott - RAS (Secretary)
Roger Davies - Oxford
Nye Evans – Keele
Gordon Bromage - UCLAN
Phil Diamond - Manchester
Martin Ward - Durham
Tom Marsh – Warwick
Paul Crowther - Sheffield
Glenn White - Open University
Bob Nichol - Portsmouth
Martin Barstow - Leicester
Tom Hartquist - Leeds
Jim Emerson - QMU
John Peacock - Edinburgh
Peter Thomas - Sussex
Paul Nandra - Imperial
Chris Collins - LMJU
Walter Gear - Cardiff
Rob Kennicutt - Cambridge
Mike Merrifield- Nottingham
Jim Hough - Herts
Trevor Ponman - B'ham
Mark Cropper MSSL
Alan Hood (St Andrews)
Keith Horne (St Andrews)
Ian McHardy (Soton)
Mike Cruise – Chair AGP STFC (PM only)

Apologies:
Mark Birkinshaw (Bristol)
Tim Naylor (Exeter)

2. Structure and purpose of Astronomy Forum

Most high-level discussion about what research in astronomy is carried out in the UK, and how it is funded (or not), is carried out within the STFC. Despite the favourable review of the Health of Physics by Professor Wakeham, the severe problems in astronomy funding since the last CSR settlement look set to get worse given the economic outlook (even though, *prime facie,* the UK spend on astronomy and space science in 2008/09 of

£189m, or of the order of £400K per astronomer assuming c.500 in HEIs and research institutions, is hardly trivial). This makes it necessary for an independent, authoritative group drawn from the community at professorial level to discuss issues and, as appropriate, present its views to STFC, DIUS and other bodies. To ensure the group is as inclusive as possible, and yet not too unwieldy, it will be restricted to one representative (ideally the same person each meeting but allowing for substitution where appropriate) from each university where astronomy research is carried out (with the exception of MSSL and UCL which operate as separate institutions; the over-representation of St Andrews being an error). Forum members must be willing to understand and represent the views of all astronomers in their University, including those attached to other departments or related institutions. The agenda and records of meetings will be posted on the RAS web site since the Forum aims at transparency. That said ,care will be taken to manage any media involvement to ensure it does not impede the close working relationship that the Forum hopes to forge with STFC (which had welcomed its formation) and DIUS (Andy Fabian will be meeting Lord Drayson in February). The Forum will complement the activities of the RAS (several of whose Councillors are Forum representatives) and SCAP (which will continue to organise meetings at the NAM – possibly under the name 'Astronomy Forum Open Meeting'). Similarly through the RAS activities will be coordinated with the IoP and other organisations including the Science Council and CaSE.

3. Economic Impact and Astronomy

STFC is required, with other research councils, to promote knowledge transfer (KT) – to which it is diverting considerable sums without much involvement by the community - and measure economic impact (EI). RCUK's Knowledge Transfer and Economic Impact Group is implementing new operational procedures in response to government's requirements for accountability and VFM for the (very much bigger) Science budget. EI is something of a misnomer since it subsumes 'societal impact'; nor is it designed to replace scientific excellence as the determining criterion in allocating research grants. Rather it is about changing the 'culture' of the research community. Applications will need to show evidence ('who is likely to benefit and how? 'what will you do to ensure benefit?') that they have left the Ivory Tower behind and have thought about impact ,while, given the intrinsic unpredictability of pure research, accepting that excellent research with no obvious useful output will continue to be funded For Astronomy (though not Space – which may underlie HMG's recent increased interest) , impact is most likely to be measurable by reference to its 'cultural' value (stimulating public interest in science- though only this is done by excellent communicators, motivating pupils into STEM subjects , training high level people with transferable skills etc).Persuading HM Treasury to support astronomy research at the higher levels of expenditure required than for other activities of cultural value (like the Arts) will be more successful if robust figures (rather than case studies) can be calculated showing the economic value to UK PLC (including spin off applications, however unintended) of fundamental research . The RAS, IoP, STFC and EPSRC have commissioned 'Oxford Economics' to try to do just this while at his forthcoming meeting with the Minister of Science Andy Fabian will suggest that DIUS might help its case with the Treasury if it obtains stats on analogue countries' spend

on astronomy and space science and commissions a) longitudinal studies into the correlation of young people's interest in astronomy/space and their opting for STEM subjects and b) the economic return to UK PCL from graduates in the physical sciences.

Politicians are more likely to be impressed by evidence that astronomy brings the UK international prestige. But does the current funding system (which spreads resources widely and facilitates involvement in multiple projects) , while enabling British astronomers to be second only to the USA when measured by publications and citations, militate against the UK making major discoveries (c/f the Nobel Prize for Physics record in the last 3 decades)? While there is a constant stream of news coverage is there a major astronomy project in which the UK is taking a leading role which can excite the public imagination and achieve comparable impact to the LHC?

4. Review of Current Situation

4.1 Wakeham Review

Professor Wakeham had modified his initial concern that astronomy accounted for a disproportionate share of the research funds of physics departments in the light of the evidence demonstrating the contribution of astrophysics to many of the subject's sub-disciplines. The Review, in the event, had been very positive about astronomy and some of its recommendations were important e.g. that membership of STFC's Council should be broadened to include more scientists to redress the balance with the executive presence (which will require senior scientists being willing to put themselves forward) and that STFC should be required at each CSR to bid for and allocate specific funds to former PPARC facilities and grant funding together. It will be important for the community to continue to push for implementation.

4.2 STFC Organizational Review

Note was taken of 2 items in 'Research Fortnight', especially the piece by former CEO PPARC Ian Halliday, which questioned whether the Review had gone to the heart of STFC's structural problems viz while improved communications were important it had not dealt with

- the tension/ conflict of interest within an organisation responsible both for funding decisions about facilities and universities, and also simultaneously responsible for making a success of owning such facilities. Is the CEO responsible for making correct decisions across the science or for having successful facilities?
- the balance between funding of small-scale science with investment in large-scale facilities especially since while STFC has total responsibility for particle physics and astronomy, it has only big facility responsibility in the areas of biology and materials. If its core mission is to deliver the most science for the UK by whatever means how does it engage the small versus large facilities debate in biology, materials, and so on?

Given the possibility (probability?) that the next CSR would deliver at best a flat cash settlement it was vital that the community exercised decisive influence over the allocation of resources made available to STFC – perhaps the key role for the Astronomy Forum

4.3 Follow-up to Programmatic Review

- Decisions need to be taken imminently about the future of 8 metre facilities but the proposed review has not taken place. This could be remitted to PPAN's advisory committees. It also appears that no savings have been achieved by the plan to sell time on Gemini
- Progress by STFC on establishing a radio astronomy strategy involving e-MERLIN, LOFAR and SKA is very slow.
- While there is little flexibility around most Space projects (since they are tied to international agreements) inadequate resourcing means that the UK is unlikely to take a leading role in many
- High performance computing is still being starved of funds

The underlining problem is that the last CSR left STFC with a budgetary shortfall which has been poorly managed. The initial intention to slice an extra £40m on top of the £80m shortfall to allow for claw back to support new projects has not happened; instead too many existing projects have been allowed to run on, not least because of community reluctance, because of the break-down of trust, to cooperate with STFC in making painful choices .Instead there are signs that STFC is running an 'overdraft' which will have to be made up during the triennium.

4.4 Grants

Mike Cruise, Chair of the AGP, gave a presentation which can be viewed here. In summary he said there is less money to be shared between more active researchers which impacts particularly on younger people. Through design – or failing that through accident- the community must either shrink or restructure. The imbalance between results produced by facilities and their exploitation is bad and will get worse (though it will help if STFC announced how the extra £9m made available through in-year adjustments is to be disbursed. NOTE: announcement expected imminently)

4.5 The ASTRONET review was an important contribution but it would be even more useful were it to have costed and prioritised projects in the manner of the UA Decadal Reviews

4.6 RAE – Physics Panel

There is concern about grade inflation, the low level of industrial sponsorship and the reliability of comparisons between different subject panels (e.g. overall higher scores achieved by Chemistry over Physics departments at 3*). The average length of the physics PhD is 4 years

4.6 STFC Strategic Plan

Forum members agreed to send their comments to David Elliott (de@ras.org.uk), generally NOT copying them to other members of the Forum (to avoid communication congestion), who will (attempt to) produce a unified submission. The draft plan is at http://www.stfc.ac.uk/STFCConsultation/cnHome.aspx

In particular the consultation requests responses on a number of questions, of which the following appear to be apposite to the concerns of the Forum:

- In what way could we improve the definition of our top-level objectives?

- What do you see as the most appropriate way to determine the optimum balance of our research portfolio between curiosity-driven and application-led?

-. STFC builds & operates its own facilities (e.g. ISIS, CLF) and does so through joint ventures with other partners (e.g. Diamond Light Source), and through international subscriptions (e.g. ILL, CERN, ESO). What alternative models could we consider in the future for facility provision, and what benefits would these models deliver?

-. Which of the areas of current and planned STFC activities would you prioritize for investment, and why? If faced with a funding choice, which areas of current and planned activity would you reduce in priority?

-. How can STFC best engage with its stakeholders and partners to maximize the science return of our programme and its impact?

5. Action points

- Next meeting March 2009 (before 20 March deadline for submissions to the STFC Strategy consultation). Dates to be circulated ASAP.
- ACF to circulate a draft letter to Keith Mason for comment (comments as above – to de@ras.org.uk and NOT to Andy). This will set out the issues to be covered at the next meeting to (part of) which KM, and other members of STFC, will be invited