



*Advancing
Astronomy and
Geophysics*

ROYAL ASTRONOMICAL SOCIETY

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MINUTES OF THE COUNCIL MEETING OF 18 SEPTEMBER 2006 HELD AT 1300 IN THE COUNCIL ROOM AT BURLINGTON HOUSE

1. PRESENT: Professor M. Rowan-Robinson (President), Professor R.L. Davies, Professor D. Gubbins, Professor D.W. Hughes and Professor E.R. Priest (Vice-Presidents), Professor P.G. Murdin (Treasurer), Dr M.A. Hapgood, Professor I.D. Howarth and Dr H. J. Walker (Secretaries), Professor M.E. Bailey, Dr A.J. Ball, Professor M.A. Barstow, Professor T.W. Hartquist, Professor J.H. Hough, Dr J. Mitton, Mr I.W. Ridpath, and Professor I.P. Wright

APOLOGIES: Professor A.M. Cruise, Professor E.I. Robson, Professor M.J. Rycroft and Dr L. Fletcher

IN ATTENDANCE: D Elliott

2. MINUTES: The Minutes of the meeting of 28 July 2006, with minor corrections, were approved and signed

3. MATTERS ARISING

3.1 RAE consultation

The President outlined the presentation, based on the paper previously circulated to Council, he had made at the Town Meeting on 8 September at the Institute of Physics. While it was clear that HMG were determined that post-2008 research funding would be based on metrics, it was also apparent that many in the community shared the concern of the RAS that, while metrics should augment, they should not replace peer review assessment. On their own, metrics, especially input measures, could be a misleading indicator of research quality. An over-reliance on the volume of an institution's research income could skew funding in favour of the most expensive, not necessarily the best, research, when judged by research outputs. Similarly, other metrics, such as citations and numbers of research students, certainly if used to make comparisons between subjects or sub-disciplines, could have their own flaws. That was why, while agreeing that the RAE became less burdensome, it was crucial that metrics and other data had to be interpreted by knowledgeable peers.

With slight modifications Council agreed that the following responses should be submitted to the Department for Education and Skills.

1 Which, if any, of the RAE 2008 panels might adopt a greater or wholly metrics-based approach?

Comments: *The subject areas covered by the Society are Physics, Chemistry, Applied Mathematics, Earth Sciences. In principle these are amenable to a greater element of metrics-based assessment, but we have a fundamental concern that the latter do not appear to measure research quality output directly.*

2 Have we identified all the important metrics? Bearing in mind the need to avoid increasing the overall burden of data collection on institutions, are there other indicators that we should consider?

Comments: *The metrics proposed are all based on volume of research funding. A minor element of research quality, derived from a particular moment in time, enters into model D. What is lacking is an independent metric that measures research quality.*

3 Which of the alternative models described in this chapter do you consider to be the most suitable for STEM subjects? Are there alternative models or refinements of these models that you would want to propose?

Comments: *We are not happy with any of these metrics if they were to be the sole criterion for WR funding. Astronomy, geophysics and solar system science have benefited from the current system in which a high weighting is given to research quality. Within the UK, astronomy and solar system science are among the top-ranked sciences internationally, as measured for example by citations.*

4 What, in your view, would be an appropriate and workable basis for assessing and funding research in non-STEM subjects?

Comments: *Appendix 2 of the consultation document offers some ideas here.*

5 What are the possible undesirable behavioural consequences of the different models and how might the effects be mitigated?

Comments: *Because all models have the undesirable tendency to transfer funding broadly from departments with high research quality to those of low research quality, universities would be driven to encourage activities which bring in a large volume of funding, regardless of research quality, and to discourage high quality research groups because they do not bring in enough research funding. Similarly because some models transfer QR funding quite drastically between subject areas, universities will be tempted to reduce activity in areas whose funding is reduced. For example under model A, where Applied Mathematics departments suffer quite badly, our theory groups, which are a strong feature of UK astronomy and solar system science research, could be damaged by this.*

Another undesirable feature of all models is the large fluctuations in funding which would be experienced by universities, which could lead to large-scale redundancies

and department closures. This would be partially mitigated by the proposal to cap any changes at 5%.

6 In principle, do you believe that a metrics-based approach for assessment or funding can be used across all institutions?

Comments: Only if a method of rewarding research quality, as well as research volume, can be found. The current models would lead to huge changes, positive and negative, at smaller institutions.

7 Should the funding bodies receive and consider institutions' research plans as part of the assessment process?

Comments: These plans are not really valuable unless there is an audit process to make sure they are implemented.

8 How important do you feel it is for there to continue to be an independent assessment of UK higher education research quality for benchmarking purposes? Are there other ways in which this could be accomplished?

Comments: We believe that an independent assessment of research quality should continue to be an element of the funding process. The panels could make much greater use of metrics (publication rates, citation scores, grant income, PhD student statistics, numbers of fellowships and awards) and the amount of material required to be submitted could be greatly reduced. However it is hard to see how the peer review element to arrive at a judgement from these statistics and submissions can be avoided.

3.2 International Perceptions of UK Research in Physics and Astronomy Review

The Geophysical Secretary reminded Council that one of the recommendations in the report was that there should be review of UK graduate education. In connection with this, the terms of reference, currently being drafted by the Institute of Physics, would be considered at the October meeting of Council

3.3 New 'G' Award for Instrumentation

The Geophysical Secretary reported that he was investigating potential commercial sponsors for the new, proposed, award.

4. PRESIDENT'S BUSINESS

4.1 Action Plan

The President spoke to the previously distributed paper. It was identical to the draft version considered at the July Council with the exception of section 2, which had been revised following a meeting with the chair of the Education Committee. In particular, the Plan now recommended that the proposed 'leaflets' (actually web pages) should be targeted at 14 year olds and their (often non-physics qualified) teachers i.e. before pupils had decided on their GCSE options, in the hope of influencing them into choosing science subjects. The list of organisations with which the RAS should collaborate, it was clarified, was not meant to be exclusive and should certainly include Science Learning Centres.

The President went on to describe his article, linked to the action plan, which was published in 'Research Fortnight' on 13 September 2006 entitled 'The case for funding blue-skies astronomy'. Following the proposed cuts to UK research projects announced by PPARC earlier this year, unless the up-coming CSR (Comprehensive Spending Review) produced a more favourable outcome for astronomy and related sciences, there would have to be further and more damaging cuts in 2008 and beyond. The President said that he proposed to use the 'Research Fortnight' article as a 'visiting card' for the meetings he hoped to have with senior officials in the Treasury and the Office of Science and Innovation (OSI). He speculated that the article, suitably revised, could be made into a campaigning booklet and/or an article for the 'Times Higher Educational Supplement' and 'Science in Parliament'. Certainly it was important that individual members of the RAS should encourage their local MPs to ask parliamentary written questions about the state of astronomy and related sciences funding; the more this issue appeared on the 'radar screens' of officials and ministers the more it was likely to be taken notice of.

In discussion the following points were made:

- Burlington House should produce a list of sample questions which, appropriately 'customised', could be used by fellows in their approaches to MPs
- Similarly, the office should compile a list of MPs with an interest or qualification in science who might on that account be thought to be more sympathetic to the Society's objectives
- While a step change in the Society's public engagement and education activities was welcomed, there was concern that the proposed creation of more content, to add to what is already a huge repository available on the Web, would not meet the needs of hard pressed teachers. What might, would be the co-ordination on the RAS web site of 'approved' content. PPARC, it was observed, had spent some £1m on school education activities with mixed results; it would be rash of the RAS to add to this (for example by funding post-graduate and post-doctoral students to undertake outreach activity in schools) without more systematic analysis of the value it could add. With that in mind it was agreed that the chair of the Education Committee, Professor Barstow and the Executive Secretary would meet separately to hone a specific proposal for the consideration of Council in December.

4.2 Meeting with CEO of PPARC

The President outlined the wide-ranging meeting he had had with the CEO of PPARC, Professor Keith Mason, on 11 September.

- The LFC ('Large Facilities Council') was scheduled to become operational on 1st April 2007. In advance of that a working group had been established by the OSI to write its charter. In discussion it was agreed that the Society would write to, and follow it up by proposing a meeting with, the DG of the RCUK, Sir Keith O'Nions, to re-iterate the principles relevant to the Charter which the RAS has set out in its earlier submission concerning the future of PPARC. There was particular concern that the outreach activities of PPARC might be dropped from the new Council's core mission.

- The ‘nuts and bolts’ of the merger between PPARC and CCLRC were being worked out by a team led by Jim Sadlier. It was agreed that the Society needed to insist that the name of the new Council (whatever it was eventually agreed it would be) must include the word ‘Research’; that the grants line needed to be protected (which would be difficult without an overall increase in the Council’s budget); that, but only if, following a RAS consultation, it was supported by the community, the new Council should operate ‘training accounts’ in the way of EPSRC; that the mechanism for funding inter-disciplinary research which fell into more than one Research Council’s ambit needed to be better articulated; that the interface with NERC was particularly critical; and that there needed to be a ‘level playing field’ in the competition for instrument design and building between the agencies of the new Council like RAL (Rutherford Appleton Laboratory) and ATC (Astronomy Technology Centre), on the one hand, and university based groups on the other.
- Professor Mason had said that the prospects for UK astronomy were ‘dire’ unless there was a favourable outcome in the next CSR. While PPARC’s own submission to the CSR was confidential he had indicated that, with the exception of ‘Aurora’, the thrust of its case, as currently foreseen, would be to link the health of university level physics as a whole to the ‘pulling power’ of astronomy, rather than base it around flag-ship projects viz that sustaining world class research in astronomy was crucial for other physical science disciplines. He had appealed to the RAS to help demonstrate the claim that it had been only by expanding their astronomy provision that some physics departments had survived in recent years.

Council thanked the President for taking the initiative in seeking the meeting with Professor Mason and encouraged him to repeat it at regular, perhaps 6 monthly intervals, with the new CEO of the LFC. By acting in a ‘partnership’ role with the Research Council the RAS would not compromise its independence and UK astronomy and related sciences would benefit. This was not to minimise the desirability of co-operating with bodies like the Institute of Physics and the Royal Society, but they had a wider brief which constrained their ability to champion astronomy. In the meantime a meeting had been arranged with the CEO of the CCLRC, about which the President would report at the October meeting of Council.

5. PUBLIC POLICY

5.1 EU Radio Spectrum

The Geophysical Secretary spoke to the previously distributed paper which explained that the management of the radio spectrum in the EU was now centrally coordinated on the advice of the RSPG (Radio Spectrum Policy Group). The RSPG had recently conducted a consultation, of whose existence the Society was unaware until after the deadline for submissions, on “A coordinated EU spectrum approach for scientific use of radio spectrum”. Fortunately, responses had been made by other astronomical organisations in Europe and the Geophysical Secretary urged Council to support them by commending them to the officials from OFCOM who represent the UK on the RSPG. A draft letter was tabled and, with minor amendments, approved viz

'The Royal Astronomical Society (RAS) is the UK's leading professional body for astronomy & astrophysics, geophysics, solar and solar-terrestrial physics, and planetary sciences. We therefore have a deep professional interest in the use of the radio spectrum for scientific purposes. Our members' primary interests are (a) observations of natural radio emissions from distant stars and galaxies and from objects in our solar system such as the Sun and planets, and (b) use of specialist radars to study the planets, the upper atmosphere and the interior of the Earth. The work of our members also depends on underpinning by radio-based services such as GNSS and satellite communications.

We are therefore interested in the outcome of the EU Radio Spectrum Policy Group consultation on "A coordinated EU spectrum approach for scientific use of radio spectrum". Unfortunately we were not made aware of this exercise until after the 14th July deadline, but we are pleased to note that some excellent inputs were submitted by other members of the astronomy community in Europe. There is a substantive input from the European Science Foundation's Committee on Radio Astronomy Frequencies (CRAF) and also four well-coordinated responses from astronomy groups in France.

The Society endorses the CRAF response and highlights the following issues:

- It is important to note that astronomy has long included active services in which radar techniques are used to study objects in the solar system, e.g. meteors, planetary surfaces and atmospheres. This is a significant omission in the RSPG's consultation document.*
- It is vital to understand that radio astronomical observations are carried out at all times of day. A few observation programmes take advantage of radio-quiet conditions during early morning hours, but in general observations may take place at any time of day. The critical criterion is radio visibility of the object and this varies between day and night over the course of each year. The focus of early morning hours is overstated in the consultation document and could lead to misunderstandings over possibilities for sharing.*
- It is critically important to the future of radio astronomy to maintain the technical intent of the ITU Radio Regulations footnote 5.340, which prohibits emissions in certain frequency bands. This ensures the radio-quiet conditions required to observe the exceptionally faint natural emissions from astronomical objects and thereby study those objects. The EU has recently allowed a time-limited breach of the emission prohibition in respect of short-range radar systems at 24 GHz, but has stated that this decision is exceptional and cannot be used a precedent for further breaches. The outcome of the consultation should stress the exceptional nature of this breach. It is vital to astronomy that the technical intent of footnote 5.340 is maintained at a strategic level and that we avoid degradation of this intent by diversion into legalistic and/or piecemeal arguments.*

We urge that the revision of the RSPG documents address these and other issues raised by CRAF. If you have any questions and comments on this letter, please contact us'.

5.2 IAU General Assembly

Council noted the previously distributed report. The President, in his capacity as the UK National Representative at the General Assembly, explained his reasons for supporting the change to the statutes concerning the conduct of voting viz to separate out 'issues of a primarily scientific nature, as determined by the Executive Committee,' which would be voted on by individual members, from other issues, where voting would remain with National Representatives. Council, at its meeting in February 2006, had mandated the President to secure the IAU Executive Committee's agreement that, were the statutes to be changed, resolutions passed by individual member votes would remain provisional until ratified by the wider membership; failing that, he would oppose their revision. The President reported that he had made those points to the IAU Executive Committee and had been assured that e-voting mechanisms to allow for membership-wide participation would be investigated; he was also informed that the IAU Executive Committee had been 'inundated' by messages supporting the proposed changes. It was also clear that the Executive Committee preferred that the up-coming vote on the status of Pluto should be made by participants at the Assembly. In the light of this the President had felt able to support the change to the statutes.

Council noted with pleasure that the Treasurer had been elected to chair the IAU Finance sub-committee, though expressed the hope that this would not interfere with his heavy responsibilities at the RAS.

5.3 IYA (International Year of Astronomy) 2009

The Treasurer introduced the previously distributed paper on behalf of its author, Professor Robson. Council agreed that the RAS should take a leading role in co-ordinating the UK's activities in 2009. If HMG and/or the UN General Assembly failed to support the designation of 2009 as the International Year of Astronomy it would be regrettable; however it was sufficient that the IAU (and UNESCO) were behind it. Council noted that the BAA (British Astronomical Association), and other organisations representing amateur astronomers, would need to play a crucial role in realising one of the aims of IYA viz. to make it possible for every young person to observe, as Galileo did for the first time in 1609, at the Moons of Jupiter. It was important, however to exploit the interest of the public in other astronomical bodies. In this connection it was noted that the organisers of the 2009 National Astronomy Week proposed to focus activities on the Moon. July 20-26 marked the 400th anniversary of Thomas Harriot's telescope observations as well as the 40th anniversary of the Apollo 11 landings.

Council agreed to ask Professor Robson to chair the RAS co-ordinating committee, to which the various interested organisations would be asked to send representatives, and approved an initial allocation of £2000 of general society expenditure to assist with its expenses.

6. BURLINGTON HOUSE

6.1 Refurbishment & Move to Hallam Court

The Executive Secretary informed Council that plans were on schedule viz tender documents had been sent to 7 contractors, most of whom had made visits to Burlington House. Proposals were required to be returned, at the latest, by 6th

October to allow for interviews of the short-listed companies on October 10. The lead consultants were confident that it would be possible to bring a definite recommendation to Council on October 12 and for work to commence in mid-November, all within the budget ceiling set by Council at its July 2006 meeting. While final planning permission had yet to be received from Westminster Council, there was every indication that this would be forthcoming. At worst, Westminster may require changes to the size of the cooling unit to be installed on the roof; in which case this would necessitate reducing the amount of air conditioning.

The licence to occupy Hallam Court from 1st November was in the final stages of negotiation. Thus the next meeting of Council would be the last to be held in the Society's apartments for upwards of 12 months; during this period the Royal Society of Chemistry had agreed to make a suitable room available for meetings of Council. Committees, by comparison, would be able to fit into the meeting room in Hallam Court.

6.2 Staffing Issues Review

The Executive Secretary outlined developments since the previous Council meeting. An agreement, in principle, had been reached with the affected parties to reduce the number of library staff by suppressing the post of Assistant Librarian in July 2008. Under the provisions of the Staff Handbook, which forms part of the contract of employment, in addition to statutory redundancy payments, redundant staff, the Executive Secretary explained, were entitled to a special severance payment to cover a proportion of annual salary. Council accordingly approved a special severance payment equivalent to 2 months salary and instructed the Executive Secretary to formalise the arrangement on that basis.

The Executive Secretary went on to report that Peter Bond had tendered his resignation from the position of Communication Officer (aka Press Officer) with effect from end-February 2007. In discussion, Dr Mitton wondered if the recent emphasis on promoting the Society and only the science with which there was an obvious link to the Society, rather than astronomy and geophysics as a whole, needed to be re-examined. In any event it was important that there should be a proper hand-over to the new Press Officer since the NAM in April was the Society's most important media event.

On that subject Council noted that this left time for Peter Bond's replacement to be identified after an appointment to the new post of Policy Development Officer had been made. This would allow for some 'fine tuning' of the person specification (and if, by then, the staffing requirements needed to prosecute the enhanced education agenda were clearer, this, possibly, could be taken into account in the job description). Finally, Council was asked to encourage applications for the Policy Development Officer post since the response, to date, from the advertisement in the 'New Scientist' had been poor.

6.3 'Cultural Campus'

The Executive Secretary spoke to the previously distributed paper, a lightly edited version of a document produced by the Society of Antiquaries. The securing of leases for the apartments occupied by the Learned Societies at Burlington House had encouraged them, together with the Royal Academy of Arts, to consider how to better

exploit their location in the centre of the capital as a 'cultural campus' (not least to demonstrate their public benefit, a key requirement of the new Charity Act). In particular, by exploiting the synergies between the arts and sciences, a public outreach programme could make a contribution to the intellectual life both of the capital, and through the web, beyond London. Examples of the programme were public lectures and debates; an annual 'Campus' festival; an extension of the Royal Society of Chemistry's 'Chemistry Week' programme to other Courtyard disciplines and pre-university introduction days.

Council was enthusiastic about the possibilities of promoting astronomy and related sciences through such a collaborative programme and noted that it would fit well with IYA 2009. Noting that the Society would in general be liable to provide 14% of any joint expenditure, the Treasurer said that he would envisage our participation in this activity as being by re-labelling or coordinating existing activities run within current expenditure plans. He cautioned the Society against agreeing to part-fund a 'Campus Programme Manager', noting that it was intended to seek sponsorship from the Big Lottery and Heritage Lottery Fund. The Executive Secretary agreed to report the outcome of a meeting in October with the other Societies which was designed to put flesh on the concept.

7. ORGANISATION AND STRUCTURE

7.1 Report of the Membership Committee

The Committee Chair introduced the previously distributed report. In addition to enhancing the database of the membership with career information and details of academic and professional qualifications, there could be a separate, online, database, which fellows, who so wished, could complete with additional information they wished to share with the membership. The Membership Committee were awaiting information on the technical feasibility of being able to do this, and would report to Council in the light of this.

7.2 Scientific Groups Committee

The Executive Secretary reported that representatives from 7 of the 8 topic groups with which it had arrangements (with the expectation that the remaining one, MIST, would also be present) had agreed to attend the inaugural meeting of the Scientific Groups Committee on the morning of October 12. They would remain for lunch in order to network with members of Council. If there were any issues that Council wished to see on the agenda of the Committee they were encouraged to contact the Executive Secretary.

8. REVIEWS

8.1 Space Policy

The Treasurer introduced this paper on behalf of Professor Cruise. It outlined the draft response of the Society to the review of UK space policy being undertaken by the Science and Technology Committee of the House of Commons. The paper argued that there were considerable benefits from the UK's involvement in space missions provided they were properly tensioned against ground-based facilities. To achieve that, the UK needed to have a strong voice in ESA (European Space Agency) and

other international bodies. That, in turn, required better coordination between academia and industry by creating an independent UK Space Council to advise the BNSC (British National Space Centre). The BNSC or other agency, in addition, needed to be resourced to be able to stimulate innovation in space technology; finally space education would benefit from better coordination.

Council congratulated Professor Cruise on producing a trenchant submission but went on to speculate whether its recommendations should have gone further by calling for the creation of a UK Space Agency, as well as by emphasising the need to provide funds for the scientific exploitation of space missions. Council was asked to consider these and any other points which a further reading of the paper prompted. While the deadline for submission was 13 October, it was felt unwise to leave agreeing the text until the next meeting of Council on 12 October. Accordingly, members were invited to email amendments to the Treasurer (to coordinate before passing them to Professor Cruise). The revised paper, together with a request to appear before the Committee in order to be able to expand on it, would be circulated for final comment before being submitted.

9. OTHER

Candidates for Election: Council approved the following Candidates for Election to Fellowship listed in OR/08/06 and posted on the RAS web site.

Anathpindika	Sumedh V.
Blanco	Francisco
Labrosse	Nicolas
Marshall	Jonathan
Pahud	Cedric
Paul	Robert Cameron
Sellers	David
Smartt	Stephen J.
Tucker	Carole

10. AOB

None

Council rose at 1620

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M. Rowan-Robinson
President

12th October 2006