



*Advancing
Astronomy and
Geophysics*

ROYAL ASTRONOMICAL SOCIETY

Burlington House, Piccadilly
London W1J 0BQ, UK

T: 020 7734 4582/ 3307

F: 020 7494 0166

Info@ras.org.uk

www.ras.org.uk

Registered Charity 226545

MINUTES OF THE COUNCIL MEETING 12 MARCH 2009 HELD AT 1300 IN THE COUNCIL ROOM

1. PRESENT: Professor A.C. Fabian (President), Professor M.E. Bailey, Professor A.M. Cruise, Professor (Vice-Presidents), Professor P.G. Murdin (Treasurer), Dr H.J. Walker, and Dr I.A. Crawford (secretaries), Dr R.J. Barber, Dr P.K. Browning, Dr L. Fletcher, Dr J. Greaves, Professor R. Ivison and Professor V. Nakariakov.

APOLOGIES : Dr A.J. Ball; Professor M.A. Barstow; Dr I.F. Corbett; Professor M.G. Edmunds, Professor B.K. Gibson; , Professor I.D. Howarth and Professor M.A. Hapgood (Vice-Presidents); Professor J.H. Hough, Dr H.J. Walker (Secretary) and Dr J.A. Wild.

2. MINUTES

The Minutes of the meeting of 12 February 2009 were approved and signed.

3. MATTERS ARISING

3.1 The Policy Officer reported that the Institute of Physics had been informed by HEFCE that there was no basis for fears that Physics had been treated unfairly in RAE 2008. It was noted, for example, that QR funding for Chemistry was set to decline by 0.6% whereas there would be 9.3% uplift for Physics

3.2 The Executive Secretary reported that the following members had agreed to join a working group to advise Council on the conduct of future Presidential elections: Dr Barber, Dr Corbett, Dr Greaves, Professor Ivison, Professor Howarth and Dr Wild.

4 PRESIDENT'S BUSINESS

4.1 The President reported on his meeting on 3 March 2009 with, and subsequent letter to, Lord Drayson, the Minister for Science and Innovation who had hinted at an 'Obama-like' surge in science spending as part of the next fiscal stimulus. The president added that, while there had been relatively little discussion on astronomy, he had been heartened by the Minister's positive remarks on Space and Space Research and his intention to bring Space back onto the Science Agenda. The President had observed to the Minister that creating a

UK Space Agency was a logical step, adding that there were mixed views on Human Space Flight, and there needed to be a clear distinction between Space Science and Space Exploration (and that the latter should not proceed at the expense of either the science or the Science Budget). He had suggested that there should be an expanded core programme involving regular access to mid-size missions, leadership roles in the large international missions and some small, low cost, access for training purposes. Coupled with this was a need for sufficient funds to exploit the data that the instruments produced. The fastest way, the President suggested, for involvement was for some bi-lateral mission(s) in the NASA SMEX/MIDEX class (NASA's highly successful small explorer and mid-size explorer satellite programme). A SMEX selection would take place in May, with UK involvement in, for example, a mission called *Janus*. A significant UK hardware contribution could tip the balance here and even make NASA select an extra mission. This could send a very positive message that the "UK is back in Space". The President reminded the Minister about the UK's own series of science satellites, the last in 1979, launched by NASA and that something similar might be one goal of a UK Space Agency. Turning to ESA, the President talked about *Cosmic Vision* where several exciting and ambitious missions were being studied for launch at the end of the next decade, with selection made at the end of 2010. He expressed frustration at the low level of STFC spend here which would deprive the UK of any leadership roles. The UK, he said, needed to spend at a comparable rate to the other ESA nations to take the on lead instruments on, for example, IXO. The President informed Council that these points were illustrations for what he hoped would be further discussion, on the assumption that additional funds were forthcoming. He added that Lord Drayson had agreed to open the 'European Week of Astronomy and Space' in Hatfield. Finally, he reported that the Minister had made it clear that media briefings by the Community against the government's science policy were a source of intense irritation. The President said it would be prudent, therefore, that they are used with extreme caution.

4.2 The President reported on the meeting of 'Astronomy Forum', attended by some 2 dozen astronomy professors, held on 11 March 2009 at the RAS. Most of the meeting had been taken up with the STFC Strategy Consultation Document, with the session before lunch focused on the questions which would be asked of STFC Chief Executive, Keith Mason, when he joined them in the afternoon. Professor Mason had explained that input to the consultation would be used to produce 2 documents. The first, a 20 page 'glossy' scheduled for April would be directed at HM Treasury and make the case for STFC science sharing in any additional funds made available under the government's expected fiscal stimulus package. Consequently it would stress STFC's 'economic impact' (which was defined to include societal as well as commercial benefits). The second, scheduled for October, would be a longer document setting out STFC's science vision and how this could be realised. Underlying that was his conviction that, currently, resources were spread too thinly resulting in UK scientists rarely taking leading roles in major international projects ; instead (Professor Mason felt) we should be doing less, but better. In addition, he added, there should be a shift in the balance of activity from data analysis to instrumentation development, not least since this was a more convincing argument to make to HM Treasury in terms of contributing to economic stimulus (and creating additional PDRAs was expensive). In response to questions he confirmed that unlike PPARC, STFC did not want to be seen as the champion of the community; like the other Councils it was important, for the community as much as anything, that the government viewed STFC as an independent interlocutor as well as a source of expertise. Professor Mason also questioned the alleged dichotomy between directed and responsive mode research funding; the role of government and its advisors was

to set priorities within which grants were allocated by peer review. In doing this, he said, it would rely heavily on the advisory panels whose role was ‘evolving’.

5. POLICY & PUBLIC ENGAGEMENT

5.1 Council went on to discuss the STFC Strategic Plan consultation document and agreed to send a submission based on the document which the Astronomy Forum proposed to submit.

Postscript:

Following email contributions from members not present at Council the following submission was made:

The Royal Astronomical Society (RAS) welcomes this opportunity to comment on the proposed strategy for the Science and Technology Facilities Council (STFC). This submission is based on the questions posed by the consultation document - but is not constrained by them.

A. *The Crucial Role of Curiosity –Led Research*

- *STFC ‘s strategy should be based on an unapologetic assertion of the value of fundamental or basic research since all the other, desirable and necessary, benefits listed, including commercial contracts, ultimately flow from this. Without a healthy base of fundamental research the UK will not produce major scientific break-throughs (or enjoy their attendant recognition, such as Nobel Prizes). While the document acknowledges the role of curiosity led research, it should be at its core (and ‘headlined’ appropriately).*
- *Similarly, while appreciating the benefits of linking relevant STFC research to RCUK/DIUS cross cutting themes, like security and global warming, there should be continued support for stand-alone ‘genuinely blue-skies’ research*
- *While STFC research can make, and has made, major contributions to meeting government priorities (Health and Wellbeing; Economic Wellbeing et al), it would be misguided to attempt to contrive such contributions from all parts of its research portfolio equally. In particular, the potential impact of much of astronomy research is impossible to predict; its(many and real applied) benefits , by definition, have arisen as unintended outcomes from investigations into fundamental questions (the ‘Universal challenges’) about the nature of the universe.*
- *That said, astronomy research can **guarantee** to make a major contribution to the improvement of the nation’s well being , given the large numbers who make a career in other walks of life, by producing graduates and post-graduates with high-level, transferable, skills. In addition, there is evidence that many other graduates in STEM subjects were inspired by astronomy as school pupils to opt for STEM subjects. The quantifiable outcomes in terms of life time contributions to the economy of particularly physics students is, probably, significantly greater than those obtainable from knowledge-transfer. Finally, the reputation of UK astronomy research attracts overseas talent to work in the UK.*

- *Other parts of the research community represented by the RAS, in particular those covered by the 'Near Universe' panel, are more easily able to address government priorities particularly 'The Changing Environment', 'Energy and Sustainability' and 'Safety and Security'.*
- *STFC's strategy should seek to develop clear and open processes for balancing its research portfolio across different research motivations including (a) curiosity-led research, (b) use-inspired fundamental research and (c) translational research that has clear applications in mind. These processes should include regular consultation with the wider community and the involvement of senior scientists on appropriate panels and boards. In reaching a considered view on the balance across research motivations, STFC should be mindful that translational research is also open to significant sponsorship by other agencies and industry, while fundamental research (both curiosity-led and use-inspired) is primarily dependent on sponsorship by the Research Councils. While acknowledging the importance of economic and societal impact, it would be counter-productive to rank individual proposals on the basis of potential application, especially in the curiosity-led area. Such ranking should rest on scientific excellence exclusively*
- *It is important, therefore, that the advisory panels established by PPA are properly resourced to accomplish their, difficult, tasks. It will be a false economy to 'do this on the cheap' since, learning the lessons of the past year, securing community confidence in their outcomes is vital. It is also important that, if they are undertaken in the thorough way required, advisory panel recommendations are treated very seriously and that if any are not accepted by the Science Board or Council, a full and public explanation should be forthcoming*
- *That said, there is a case for 5 or 10 year reviews, on the lines of the US Decadal Review, to thoroughly investigate options and agree long range 'road maps'*
- *In addition to striking a balance between curiosity-led and application-led research, the strategy also should make explicit the process by which it will achieve an optimum balance between investment in facilities and the provision of funds available to researchers to exploit the results emanating from them (as well as results from non-STFC supported facilities). Astronomers and space scientists enjoy the benefits of many international and bilateral projects including ESO and ESA. However there is real concern that the exploitation of these facilities is not adequately provided for in the level of grants, a situation exacerbated by the shortfall in the STFC budget in the last spending round. On the other hand assembling an engineering team capable of conceiving and developing truly innovative instruments such as SCUBA or SCUBA-2 takes decades and care must be taken not to lose skills which could take a generation or more to replace.*

B. Ranking Priorities

- *Regardless of the outcome of the next spending settlement, there is a recognition that, if UK scientists are to take **leading** parts in international projects, there may need to be more focus with a smaller number of STFC funded research activities*
- *The RAS cannot make 'ex cathedra' statements about the relative importance of current or planned STFC activities. It can, and does, facilitate community discussion of them and is anxious that the **process** by which priorities is set is transparent and broadly based. A starting point should be investigations already undertaken with strong community involvement e.g. the ASTRONET and ESFRI road maps, ESA Cosmic Vision and the Astroparticle ERANet (ASPERA) roadmap. Peer review on the basis of scientific excellence, despite some shortcomings, is superior to other ways of ranking options. Placing disproportionate weight on secondary considerations, such as wider impact, will lead to reduced funding for the best science.*
- *The existing structure of 'Town Meetings', online consultation and engagement with researchers at events like the National Astronomy Meeting works best when attendees feel they have the opportunity and time to meaningfully contribute to the decision-making process. Community consultation should be genuine dialogue and not used to explain decisions already taken.*

C. Other

- *There is a strong case (highlighted in the Wakeham review) for investment in High-Performance Computing (HPC) to be increased to bring the UK into line with other industrialised nations. Such facilities would be of great benefit to researchers in the area of theoretical astrophysics but could also serve many other scientific disciplines.*
- *International subscriptions to facilities and projects are in many cases calculated on the basis of Net National Income (relating to GDP measured in e.g. Swiss Francs). Economic and exchange rate fluctuations can cause unforeseen pressures on budgets available for other areas of research and hence has an impact on long-term investment plans. We welcome the funds provided by DIUS that provide some measure of protection from 2008-11 but ask that this is made permanent.*
- *The British National Space Centre (BNSC) has not served the space science community as well as it might have done. BNSC lacks a clear identity and as a partnership of many organisations has been unable to provide the leadership the sector requires. The UK, in company with all analogue countries, should have a free-standing space agency, possibly located on one of the STFC campuses, that has the skills and resources needed to take forward UK engagement with ESA, NASA and other partners.*

- *There is a case for translational research and knowledge transfer being handled by a cohort of experts rather than by diverting scientists away from their core activity*

5.2 Dr Fletcher spoke to her draft web document ‘*What everyone should know about Astronomy*’. She reminded Council that the idea, which had been suggested at the Strategic Away Day, was that the RAS should provide easily-digestible information for the public on 10 important questions in astronomy and space physics using the criterion ‘*what should every enlightened citizen should know about this?*’. In producing the questions, she had taken the view that there should be a balance between what people *want* to know and what scientists think they *ought* to know. This was distilled into into 5 categories:

- (a) Philosophy – what is astronomy (inc. astronomy is not astrology). How do we claim to ‘know’ things when we can only observe from a great distance?
 - (b) General facts about the scale of the Universe – how big, how many, how far, how old?
 - (c) Solar System - how did it form, why is it the way it is, what are the planets like, why isn’t Pluto a planet any more, how was the moon formed?
 - (d) Life in the Universe – conditions/coincidences that have made Earth pleasant for life, state of knowledge about life on other planets in solar system, and other planetary systems
 - (e) Cosmology – earliest things we can observe, the Big Bang, dark matter/dark energy?
- The questions, with some short additional statements, would be ‘clickable’, taking the reader to a web page with further information. Council welcomed this approach and thanked Dr Fletcher for agreeing to take it to the next stage of writing, or commissioning colleagues to write, the ‘further information’. Council was invited to email her with any suggestions and offers of assistance. It was noted that in due course it would be appropriate to turn to the geophysics community to devise a companion ‘*What everyone should know about the Earth*’.

6. ORGANISATION AND STRUCTURE

6.1 The Executive Secretary introduced a paper setting out the case for creating a *BGA Committee*. This proposal arose from the consultation with RAS fellows in the Solid Earth community (SEG) in 2008 which, despite the importance of *GJI* to the RAS, revealed that many of them felt marginalised in a Society dominated by astronomers and space scientists. This was the result, in part, of the absence, since 2007, of representation on Council and the latter’s preoccupation with the consequences for astronomy of the last CSR; in part, of dissatisfaction with the performance of the British Geophysical Association (BGA), a Joint Association of the Geological Society of London and the RAS, set up to accommodate the SEG community’s wide remit which, traditionally, caused some of the community to belong to both Societies. It had, though, become apparent that the BGA was unable to operate effectively without greater assistance from one or other of its parent societies. In view of the importance of *GJI* and the commitment undertaken to better serve the interests of its fellows in the SEG community, Council had agreed that it fell to the RAS to take on that role. In practical terms, were the BGA to have formal committee status within the RAS, this would qualify it to have planning meeting expenses reimbursed; it would also ensure, through its composition and operation, better contact with the RAS Council; finally, it would have access, as with other RAS committees, to office support in arranging and following up committee meetings. This was acceptable to both the BGA and the Geological Society of

London, which had confirmed its commitment to continued shared 50/50 funding of BGA activities. Council agreed to establish a *BGA Committee* and instructed the Executive Secretary to make the appropriate arrangements

6.2 Council approved the 2010 ‘A’ Awards Committee.

6.3 The composition of the 2010 ‘G’ Awards Committee was deferred until the May meeting.

6.4 Council approved the appointment of Dr Mitton as Chair of the Membership Committee in place of Professor Gibson. In addition Professor Ivison and Mr Hope were appointed to the Committee.

6.5 The Executive Secretary introduced the draft Narrative Statement section of the Annual Trustees Report for 2008. He explained that this was a public document lodged with the Charity Commission and needed to demonstrate not only achievements for 2008 and plans for 2009, but also how these served charitable purposes i.e. how the Society contributed to ‘public interest’, the basis for its charitable status in law. Hence, among others, the inclusion of sections about the launch of the ‘Friends of the RAS’ and the activities associated with IYA 2009. At the same time, while continuing to cater for its membership based overseas, amateurs and the retired, the core aim of the RAS, he reminded Council, remained to provide leadership for UK based career scientists, whether, ideally, members of the Society or not. Accordingly a major preoccupation throughout 2009 would be the case for sustained public funding of curiosity driven or ‘blue-skies’ research, without which much of the research of a significant part of its membership would be put at risk. With some changes, including greater prominence for IYA 2009, Council approved the draft report which would be presented to the membership at the AGM in May 2009.

7. FINANCE

7.1 The Treasurer introduced the Draft Financial Statements Section of the Annual Trustees Report for 2008 and linked it to the Operations Plan. He reported that the financial picture had improved since previous versions of the Operations Plan, though we still showed a large deficit in 2008 principally due to hangovers from the refurbishment of the Society’s premises and the costs of funding an early retirement. A death in service resulted in an unexpected £100,000 surplus in the staff final salary pension scheme which would partially compensate for the fall in the value of the scheme funds caused by the ‘credit crunch’.

The Treasurer went on to explain that the accounts showed an essentially balanced budget for 2009 due to a combination of the Society having been left a considerable bequest, increased income from US\$ and Euro sales of the Society’s journals, new income from sales of images and minimal salary (1%) inflation. Set against this, though, would be the need to pay more into the stakeholder pension scheme. The 2010 figures showed a projected surplus principally as a result of assumptions about journal income and the continued weakness of sterling. This, though, was speculative not least since agreement on pricing of the journals had yet to be agreed with the publishers, Wiley- Blackwell. Council approved the Statements and Operations Plan, subject to the Treasurer revisiting the income expected from investment in 2009, which may have been over-stated.

7.3 The Treasurer explained that annual contributions were designed to be as affordable as possible while providing a secure basis for the Society’s operations. Before 2003 they had

increased by at most the RPI which had resulted in a progressive shift of the financial burden of running the Society to income from publications and investments. Between 2004 and 2007 contributions were increased above RPI to enable the Society to hold back price increases in the journals at a time of constrained library budgets. Since 2007 there had been a return to restricting contributions to changes in RPI and the proposed 2010 Annual Contributions, which would be put to the May 2009 AGM for approval, was in line with this. This would result in the following rates (before the application of conditional reductions):

Rate 1 Concessionary rate for students and older Fellows: £26.00.

Rate 2 Concessionary rate for recently qualified and newly elected Fellows: £64.00

Rate 3 Standard rate: £94.50.

Council agreed that these rates should be proposed by it to the AGM. It went on to ask the Membership Committee to investigate the rationale for the age related categories of membership. Given the imminent changes to the Society's ability to pay and collect money electronically Council asked the Treasurer to explore the scope for making payment of the Annual Contribution by instalments.

7.4 The Treasurer spoke to a paper which reviewed the performance of the Stakeholder Pension Scheme which had been offered since 2001 when the Defined Benefit Scheme was closed to new staff. The Scheme, based on employee and employer contributions, was targeted to deliver the same as the Defined Benefit Scheme but, crucially, on a non-guaranteed basis since the level of employer contributions remained subject to approval by the Council, not least so that affordability could be taken into consideration. In September 2008, actuaries provided estimates of the amounts by which the Employer's contribution would have to be increased in order to meet the target. While the figures would need to be reviewed in a year or so the Treasurer advised that it would be prudent to increase employer contributions by 15% at an additional annual cost of £20,000 which, he added, was affordable. This was approved.

8. PUBLICATIONS

8.1 The Treasurer spoke to the Publications Management Committee Report. 2008 had been another successful year with a 13% increase in submissions to *MNRAS* and a 4% increase for *GJI* without compromising quality (as measured by impact factor). At the same time subscriptions had held up very well with a 98% renewal rate. However production deadlines had not been met in too many instances and the Society intended to discuss the penalties provided for in the contract with the publisher, Wiley-Blackwell. An important change in how international sales were accounted for had been introduced unilaterally by the publisher. From 2009 the journals would be priced to reflect in-country costs where sales were made in Euros and US\$, replacing the practice of denominating everything in £sterling (mitigated by forward buying of foreign currency and adjustments to smooth out exchange rate variations). In 2009, because of the devaluation of the pound against these currencies, this was expected to result in higher income. However by the same token, it could go the other way and the Society needed to consider how to manage this risk. Finally, the 2010 budgets presented by publishers were rejected since there was disagreement about assumed projected growth and the anticipated income, based on the 4% by which it was proposed to increase prices. The Treasurer, as a result, was unable to seek Council's agreement for the 2010 prices, which it was clear would have to rise by more than 4%, and asked if this could

be effected by email if, as was likely, it was necessary to make a decision before the next meeting in May. This was agreed

8.2 The appointment of Dr Falk Amelung (University of Miami) to GJI Editorial Board as approved

9. OTHER

9.1 The following candidates were elected to Fellowship of the Society (tbc)

Avison	Adam
Bull	Peter
Ball	William
Bareford	Michael
Bedington	Robert
Brown	Kevin
Chacksfield	Barrie
Chambers	Stephen
Chuter	Robert
Cooke	Ryan
Custodi	Paolo
Davis	Gary
DePoitiers	Laura
DeRosa	Robert
Dewar	David
Everiss	Richard
Hamling	Ian
Harkrider	David
Hartley	William
Hobday	Charlotte
Hohenschlaeger	Tilo
Ibar	Eduardo
Kanani	Sheila
Kevis	Robert
Kirk	Donnacha
Lloyd	Georgina
Matsuura	Mikako
Mothobi	Conway
Neukirch	Thomas
Owens	Mathew
Owens	Steven
Pascale	Enzo
Pomierny	Jan
Potter	Adrian
Rout	Brian
Rowell	Nicholas
Sangaralingam	Vinothini
Scowcroft	Victoria
Sharpe	Elliss

Sheridan	Nigel
Shipway	Jennifer
Steele	Iain
Supper	Michelle
Wallace	Elizabeth
Watkins	Christopher
Watson	Mark

9.2 The minutes of the A&G meeting of 13th February were approved and signed

10. AOB

10.1 The President welcomed the appointment of Professor Barstow to the Council of STFC

10.2 Dr Crawford reminded Council to propose topics for special discussion meeting

10.3 Professor Bailey appealed for a representative from Council to serve on the Astronomy and Heritage Committee

10.4 Dr Barber suggested the Society should obtain a licence to sell alcohol to outside bodies hiring Burlington House for their meetings . It was agreed that this would be kept under review

10.5 Dr Greaves on behalf of the Committee for Women in Astronomy and Geophysics suggested that the Director of the Daphne Jackson Trust should be invited to address the July meeting of Council. This was agreed.

The meeting rose at 1645

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A.C. Fabian
President

8th May 2009