



*Advancing  
Astronomy and  
Geophysics*

## ROYAL ASTRONOMICAL SOCIETY

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Dear Dr Grant

### **STFC Organisational Review**

Thank you for the opportunity to provide written evidence to the External Panel for the Organisational Review of the Science Technology Facilities Council (STFC). As requested, our submission follows your suggested headings.

#### **Vision and Structure**

The mission set out in the Royal Charter is unexceptionable, as is the vision statement on the STFC website. The words about being a "science-driven organisation" supporting "the highest quality research" are reassuring.

However there is no public process to engage the community in developing its vision (this is in contrast to normal practice in other RCs and indeed across Government). We are informally aware that a new process is being developed - we welcome that but it needs to be public and engage the whole scientific community.

Without a vision, and without the engagement of the scientific community in that vision, STFC cannot develop a substantive role in promoting scientific research. This is hindering the writing and assessment of research proposals, which are the lifeblood of any research community.

It is not clear that the amalgamation of PPARC and CCLRC to form STFC was beneficial to the major stakeholders. PPARC supported basic science, largely in the universities while CCLRC handled large facilities for all Research Councils - an oil and water situation.

There appear to be fundamental and intrinsic problem of incompatible responsibilities. The Wakeham Review has recognised this by, in effect, recommending the re-creation of an internal "PPARC" funding stream within STFC, the key recommendation being that "the STFC be required at each CSR to bid for and allocate specific funds to

former PPARC facilities and grant funding together. This would avoid the undesired tensioning of these grants and facilities support against national facilities and the project for the development of science and innovation campuses."

The grants line remains severely underfunded in the near future. This gives the perception that STFC treats facilities first and the exploitation of those facilities within the old PPARC areas as a poor second. Supporting the very best science in those areas independent of which facilities are used, or not, is very important. There is no other source of support for astronomy research in the UK other than STFC, so this has to be done right. The research appears to be directed in a top-down manner, which is inappropriate. This raises the issue of the accountability of STFC itself. An outside review, which listens to all stakeholders including the community it serves, would seem appropriate

### **The national campus strategy**

There needs to a clearer vision of what this is all about. In principle, the development of campuses where science and industry can interact could be mutually beneficial. But the present plans are too vague to engage the scientific community. STFC needs to address this as part of its vision - to show how the campuses will act to the benefit of science as well as industry. There needs to be some pay back in terms of advancing scientific knowledge as well as the improved economic impact that the Government seeks. To be successful the campuses must be seen to deliver advantages for all players, including the academic community.

### **Governance**

The internal structure of STFC i.e. who does what and who reports to whom, remains unclear. The structure and remits of Council - Science Board - PPAN & PALS are standard. Exactly how the members are selected and appointed is also unclear. This is an important and rather basic requirement for openness and transparency. The structure reinforces the impression that STFC still has the logical PPARC + CCLRC structure at the working level.

The structure of Council has been commented on by the Select (IUSS) Committee and the Wakeham Review. It seems strange that there are three members of the STFC Executive on a Council of ten people, and no prominent member of the Particle Physics community. This contrasts with the CERN, ESA, and ESO model, where there are no Executive members of Council, and the Director General (Chief Executive) reports to Council. We welcome the recommendation of the Wakeham Review to increase the number of science stakeholders on Council by two. Even more would be welcome.

The key words in all this are "responsibility", "transparency" and "inclusion". STFC has failed to ensure that its committee system encompasses experience in key areas relevant to its programme. A key area here is space projects and in particular the ESA Science Programme. This is an important part of the STFC programme, but the STFC committees contain limited experience of space projects. Similar considerations probably apply in other areas (e.g. ground based telescopes). Without this expertise (which is widely available in the community) how can committees make sensible decisions or provide proper oversight of STFC actions? The new advisory panels may help, but there needs to be more focus on ensuring that critical expertise is available across the STFC advisory system. Decisions must also be seen to be based on the peer review process without any suspicion being possible that particular projects are favoured for personal reasons.

### **External Stakeholders**

The disastrous funding furore has shown that STFC needs much greater openness, transparency, and consultation. Real steps have been taken to address this (including the recent appointment of a Director of Communications). It would appear that the senior members of the STFC Executive need to make a major effort to engage actively with the community outside of set-piece affairs such as occurred at the RAS National Astronomy Meeting.

The relationship of STFC upper management with the UK and international research community has been appalling. Examples of the latter are Gemini and EISCAT. There is a concern that the negative publicity associated with the funding crisis will have a knock on effect with the general public and hence feed back into lowered public support for the whole UK science community (so far the amateur astronomy community has been very supportive for the professional facilities and grant funding under threat).

Another particular concern is the secrecy of STFC about the criteria used to assess scientific activities and proposals between the research areas and facilities; in particular the use of metrics derived from bibliographic analyses by PPAN in the initial phase of the Programmatic Review. For example, STFC has made claims that some projects, such as solar-terrestrial physics, have low scientific quality and impact, but has failed, when challenged, to explain how they reached this conclusion. This needs to be brought out into the open so that any misunderstandings can be resolved and the community can have confidence and a renewed trust in STFC processes.

### **Priority Areas for Improvement**

Obvious issues are:

- a) Communication, transparency, and consultation with all stakeholders;
- b) Clear definition of structural responsibilities within STFC;
- c) Engagement of Council and Science Board members with the community(ies).

STFC needs a senior management that can engage with the scientific community: that can listen and make good use of advice from the community, that can raise community awareness of wider constraints of government strategy and budgets that can lead the community to exploit the opportunities for science that the Government is keen to promote. If this is fixed, the other problems can be fixed. If not, the problems at STFC will continue.

The community needs to be confident that STFC can and will make the best possible submissions for the next Comprehensive Spending Review.

Continuity and steadiness of funding are of fundamental importance in establishing a career structure for those scientists aiming to devote their work to astronomy and space science. The problems of the past year have had a considerable negative effect on morale, particularly on the youngest members of the community, with the risk that they choose to either leave the UK or move out of research altogether.

Yours sincerely,

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President