



Science & Technology
Facilities Council

STFC Perspective

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PPAP, Birmingham

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Outline

1. Update since Town Meeting in April

- New grants system
- Capital on grants
- RAL PPD Review
- STFC Advisory Structure

2. PP Programme

- Balance of Programme
- Overview of programme priorities

Discussion

Comprehensive Spending Review Outcome

- Overall the settlement is a good one for STFC, and an extremely good one compared to what we were expecting
- The outcome partitioned our programme into three areas:
 - International Subscriptions
 - UK large facilities
 - the “core” programme
- Published in STFC Delivery Plan in December 2010

International Subscriptions

- International subscriptions are fully funded at the levels which have been agreed with our international partners.
 - For CERN, we have extended our forward buying policy
 - Bought forward 90% of our currency requirements to manage foreign exchange exposure (90% for FY11/12 and FY12/13 , 60% for FY13/14 and FY14/15)



Core Programme

- Resource allocation sufficient to maintain support for the prioritised science programme announced in 2009
- Capital funding is sharply reduced from 12/13, which may impact on grants and projects such as accelerator R&D and future instrumentation (see later)
- New and simplified consolidated grants system has been introduced (see later)
 - We have not set any targets for “research concentration” *i.e. reducing the number of research groups supported*
- Technical capabilities in the national labs will be refocused to better support the UK research base and to complement the universities (see later)



Core Programme

- Studentship numbers will be maintained at 220 per year with the addition of an enhanced studentship scheme (“STEP”)
- Advanced fellowships programme is re-launched as Ernest Rutherford fellowships with the possibility for awardees to bid for (modest) research funding
- Expanded Futures programme for global challenges
- Further development of Campuses in partnership with Goodman at Harwell and Langtree at Daresbury
- The core programme should not be adversely impacted by the internal restructuring being carried out in 2011/12.

Operating Plan

- We have now translated the statements and commitments in the Delivery Plan into an Operating Plan for 2011-12
 - [Operating Plan published 1 July 2011](#)
- Has been informed by discussions with science communities, Science Board
- The process was much more straightforward than it would have been if the settlement had been less good:
 - [No need for any major reassessment of our science priorities](#)
- We have now resolved most major open issues but there are (still) plenty of devils in the details



New STFC Grants System

The existing standard and rolling grant mechanisms have been replaced by a single consolidated grant scheme.

Not a major change for Particle Physics

Main features

- a) one consolidated proposal per department (or equivalent) per grant panel area submitted every 3 years
- b) core elements funded up to 4 years, non core elements up to 3 years (but with flexibility to spend over 4 years).
- c) The budget for core elements will be determined by the Grant Panel and STFC. Core staff can support construction projects as now.
- d) Grants will incorporate existing schemes for PATT, travel and visitor grants.
- e) An individual academic can only be supported for exploitation on one consolidated grant



- e) A certain level of public outreach activity could be specifically funded on consolidated grants, subject to a well justified, peer reviewed case
 - Encouragement to smaller groups to join with other groups in same well defined research area to submit a consolidated grant.
 - Greater flexibility on consolidated grants to allow staff to be moved between projects over the course of the grant, particularly to start new activities before the next 3 year review.
 - Introduction of a new investigators scheme to allow newly appointed academics to apply for support before their department consolidated grant is next considered. Funding to come from the relevant grant line.
 - Will be differences between subject areas – no ‘one size fits all’
 - PPGP Theory grants round was one of the first to use consolidated grants mechanism
 - Some points of clarification needed but overall has worked well.

Capital on grants

All equipment awarded on a grant to a university is classified as capital and must be funded from within the STFC capital allocation

- Sharp reduction in STFC capital allocation means capital components of grants will be limited by available funding
- Options to manage the impact of reduced capital available are being considered:
 - increased threshold for capital on grants from £3-£10k under “Wakeham” has helped, but
 - more work needs to be done

This requires careful management

Technology Support

Statements in the Delivery Plan about support for technology and instrumentation, and greater complementarity between universities and STFC's in-house research groups, have caused some concerns

- In the short term, expect a significant impact on staffing especially in the Particle Physics Department at RAL
- In the longer term, this *may* impact on university groups, but focus is on the large-scale construction of major instrumentation (like the ATLAS detector upgrade)
- We will continue to support R&D and early stage technology development in universities through the consolidated grants mechanism (subject to peer review)

Particle Physics at RAL

- STFC is conducting a review to provide recommendations on future Particle Physics activity undertaken by STFC staff at RAL
- Panel membership:
 - John Womersley, STFC (Chair)
 - Austin Ball, CERN
 - Steve Lloyd, Queen Mary, University of London
 - Janet Seed, STFC
 - Steve Watts, University of Manchester
- Will report to STFC by September 2011 with implementation to follow.

Particle Physics at RAL

- Terms of Reference
 - Consider future work needs given that we wish to concentrate on a technical support mission for the UK
 - Recommend appropriate role and organisation structure
 - Recommend transfer of any activities that could be more appropriately delivered by other organisations (e.g. universities)
 - Recommend appropriate governance / oversight arrangements
- Members of the community are invited to comment on the ToR and key contributions that the particle physics activity at RAL makes to support the UK programme

Deadline for comments Friday 15th July 2011



Particle Physics at RAL

- This new and more distinctive role will be coupled with the provision of a new funding mechanism outside the Particle Physics grants system, in recognition of the national support role that it is intended to provide.
- The more focused mission will require that some downsizing takes place, but any savings will be retained within the UK Particle Physics programme.
- Though its mission is driven by the need to assure technical capabilities, we realise there is also a strong need to connect with, and be part of, the particle physics research enterprise, and so we will continue to support a number of staff with scientific research leadership roles within the new structure.
 - Staff can be members of collaborations and sign physics papers, just as now



STFC Advisory Structure

- STFC places great importance on strategic and peer review advice from the external scientific community and other stakeholders.
 - essential role in the decision making process in STFC.
- Changes to its programme and ways of working have led STFC to review the science and technology advisory structure, in particular:
 - the impact of the Facilities Funding Model
 - the need to reduce the administration budget of STFC and reform ways of working.
- Council/SB Working group set up in May to further develop proposals for the STFC advisory structure
- To be discussed by Council on 12th July

Balance of Programme

- Science programme delivered by the 2009 prioritisation considered narrow and lacking sufficient breadth in some areas to allow for future strategic development
- PPAN met in February and June 2011 to consider what could be done to try to address this in the post-CSR funding environment
 - No new money available but may be scope to do something to take advantage of delays in approved programme
 - Need to maintain core capability in key areas
- Funding significant investments would require reducing existing projects with the highest strategic priority

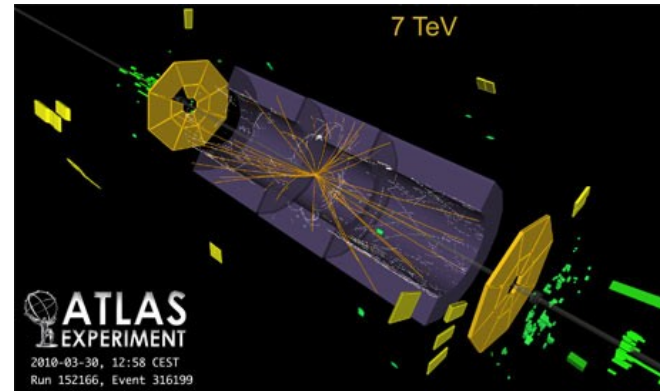


Balance of Programme

- Need for some additional small scale activities to keep options for the future and some vitality in the programme
 - Consider small reduction in funding for core activities to target new smaller projects where a very strong case was made
 - Give some flexibility to grants panels to award a small amount of FTE to new activities (or existing activities currently not supported by STFC) where a very strong case was made
 - Exploit greater flexibility offered by consolidated grants to all grant holders to assign some fractions of posts to new activities

Particle Physics

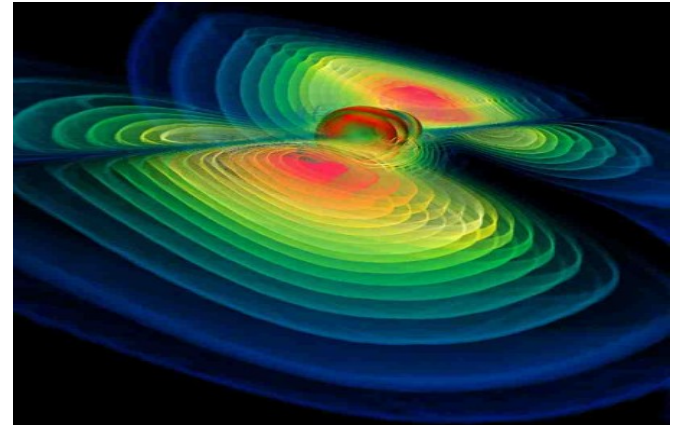
- Our highest priority in particle physics is the exploitation of the **Large Hadron Collider** at CERN.
 - **ATLAS, CMS** and the more specialised **LHCb** (and ALICE) experiments
 - **GridPP**
- The **ATLAS** and **CMS upgrades** are highest priority projects
- Exploring neutrino mass and mixing with **T2K** and **SuperNEMO**





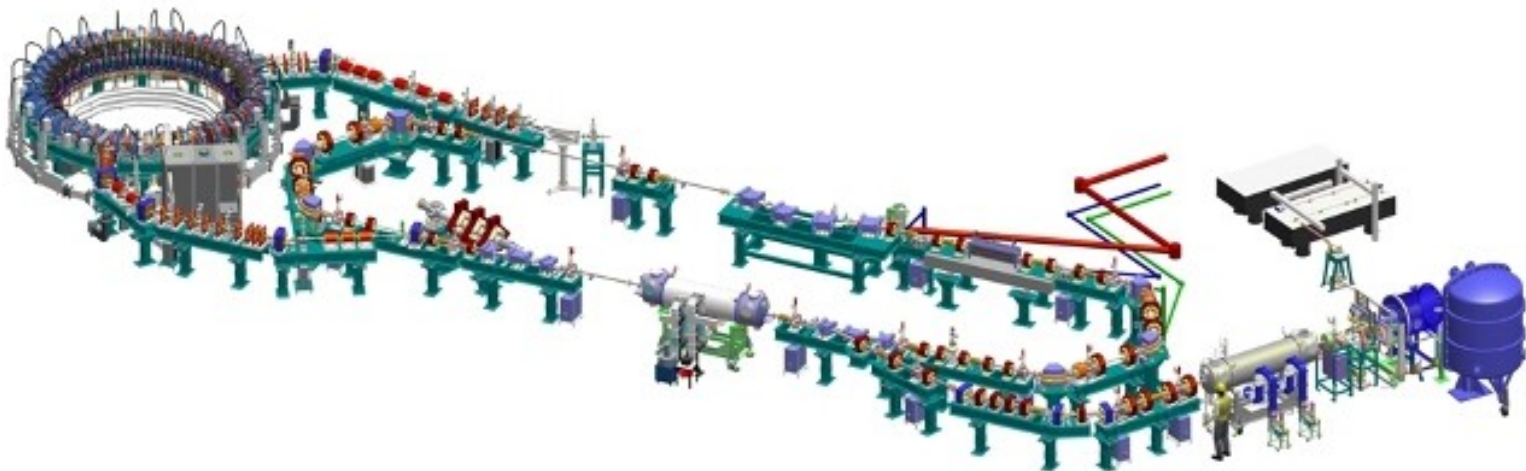
Particle Astrophysics

- In the coming decade we expect to directly detect, for the first time, gravitational waves from distant cosmic phenomena
 - Exploitation of ground-based Gravitational Wave Detectors
 - Advanced LIGO
- Opportunity to fund future activity in direct detection of dark matter and high energy gamma rays at a modest level
 - focused R&D



Accelerator R&D

- The Accelerator Strategy Board continues to provide strategic programme advice
 - Set out the programme and future funding level for electron, laser-plasma and proton accelerator R&D
 - Will be reviewing future funding for John Adams Institute and High Power Proton Accelerator work this summer, along with a mid-term review of the Cockcroft Institute later this year



Conclusions

- Funding is clearly constrained in the UK for the next four years, *but* the importance of science is growing – scientific and technical innovation is increasingly key to our future prosperity, security and wellbeing
 - We must find ways to maintain our scientific position within flat funding levels while protecting our long term vision and prospects
 - **We need scientifically excellent projects that are imaginative, affordable, and relevant**
- Over to you!*



Discussion

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Allocation

Science and Technology Facilities Council (STFC)

Breakdown of the allocation

	£000	2011-12	2012-13	2013-14	2014-15	Total
RESOURCE						
International Subscriptions		108,598	119,515	121,697	123,071	472,881
Facilities		77,170	79,280	81,410	89,470	327,330
STFC Core Programme		190,060	172,200	172,200	172,190	706,650
CAPITAL						
International Subscriptions		46,221	30,293	28,530	27,667	132,711
Facilities		21,070	21,919	22,463	22,931	88,383
STFC Core Programme		19,630	21,981	14,237	14,169	70,017
Diamond I & II VAT – LFCF		4,600	3,300	3,300	3,300	14,500
Diamond III – LFCF		8,900	16,700	19,900	19,200	64,700

... this obviously needs some interpretation