

Astronomy Grants Panel 2011

AGP presentation to Astro Forum



Outline

- The new scheme
- Process
- Input
- Output
- Issues

The image features a large, circular, blue-tinted object with a complex, textured surface, resembling a globe or a planet. The texture is composed of various shades of blue and white, suggesting a rugged or crystalline structure. The object is set against a dark, almost black background. In the center of the image, there is a yellow rectangular box with a thin red border. Inside this box, the text "The new scheme" is written in a black, serif font.

The new scheme

Implementing the new scheme

- 3 yr grants with 4 yr window
- Division into *projects* labelled by sub-panel(s)
- Projects assessed independently
- Q&A session replaced by assessor's questions
- Toughened attitude on investigator "FEC time"
- New Applicant scheme

More key points

- Aim at Feb deadline for Autumn announcements
 - 2011 deadline was May
 - 2012 deadline Feb
- Merged visitor grants but not yet PATT grants
- Good progress towards full consolidation
- Cost reduced
 - Panel shrunk
 - Review days reduced
 - no applicant visits

A blue-tinted micrograph of a cell, possibly a neuron, showing internal structures. A yellow box with a red border is centered in the image, containing the word "Process" in black serif font. The cell has a large nucleus and various organelles visible. A small white arrow points to a specific structure on the left side of the cell.

Process

Assessment Principles

- Main output is a ranked order of projects...
- ...but *calibrated* by qualitative wording
 - eg "competitive with the best science funded worldwide"
- Consistency between groups and across areas
- Investigator time assessed same way as RA time

Elements of assessment

- Multiple referee reports and assessors questions
- Opportunity for applicant response
- Preliminary scores by all sub-panel
- Input on KE and outreach from STFC specialists
- Panel-wide discussion followed by revised scores
- Merging panel to agree x-calibn and splicing
- Final product is ranking : scores only internal

A blue-tinted image of a globe, possibly representing Earth, with a yellow box containing the word "Input" in the center. The globe shows some cloud patterns and a dark shadow on the right side. The word "Input" is written in a black serif font inside the yellow box.

Input

Proposals in

- 35 applications
- 6 bridging requests pending further consolidation
- 18 applications from ex-Standards groups
- Almost all ex-Standard groups applied *this* round

Resource Requested

- 227 RA posts (596 sy)
- 207 Investigator years
- £82M

- Significant overbidding
 - 1.9 versus baseline
 - 2.8 versus expectation
 - traditionally RGs were 1.5 and SGs 6-7

- Aim of reducing review volume not achieved yet !

Average overheads on request

- DA staff costs/ DI staff costs 0.53
 - Investigator months/DI months 0.33
 - DA-month cost / DI-month cost 1.61
- ODI costs / DI staff costs 0.40
- total cost / DI+DA+ODI cost 1.45
- total cost / DI costs 2.80

Facility checkboxes by request

Ground based optical-IR 137

ESO-total=56, VISTA=16, JAC=23, ING=19, Gemini=11

Ground based radio 23

LOFAR=11, eMERLIN=9, VLBI=3

Space solar 37

Hinode=8, SDO=8, Solar.Orb=8

Space planetary 19

CLUSTER=7, Cassini=5, MarsExpress=3

Space astrophysics 96

ESA-led=50 (Hercshel=17, XMM=10, Planck=12)

NASA-led=35 (HST=17, Spitzer=14) Other Space=11 (COROT, Akari)

HPC 10

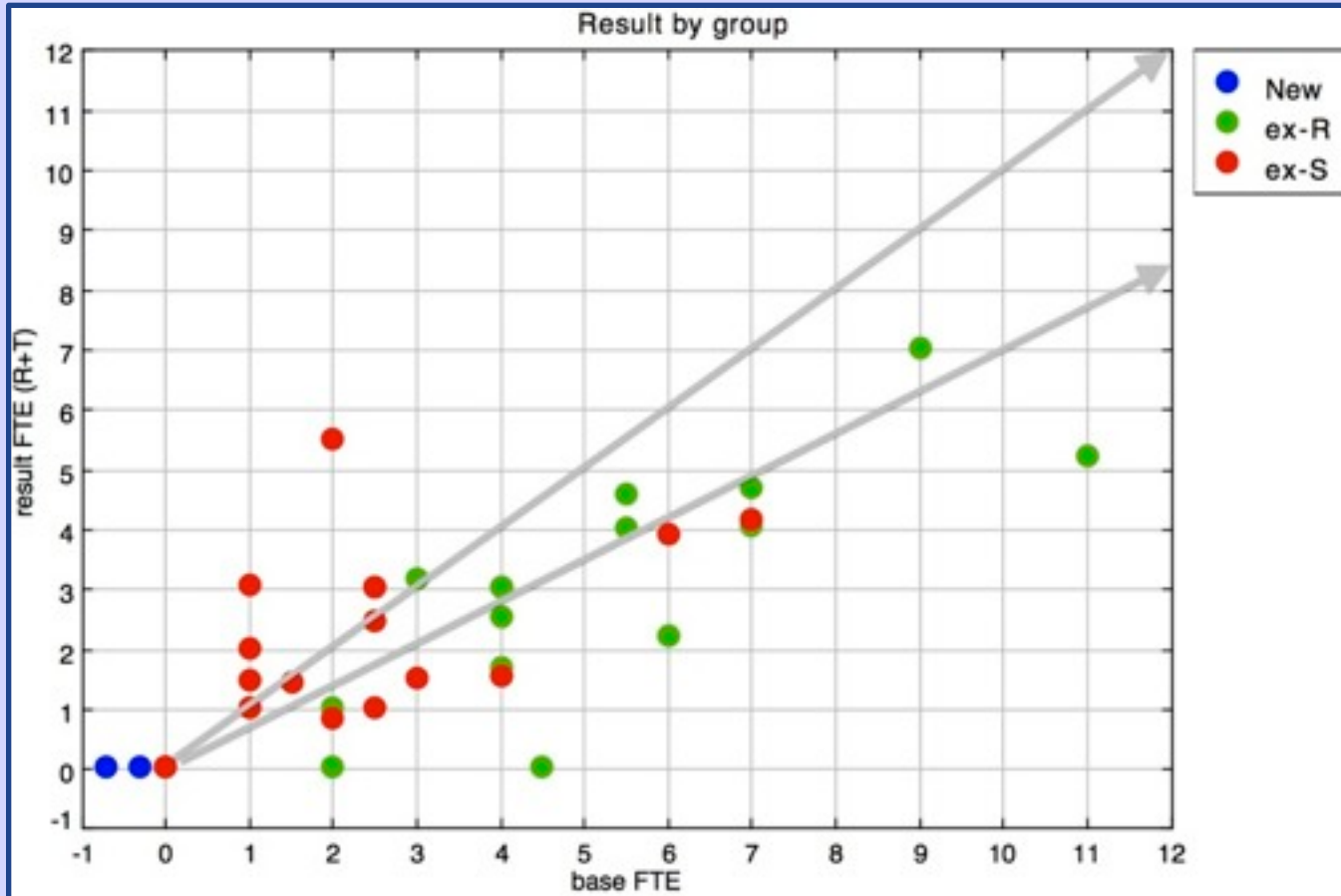
A blue-toned image of a globe, possibly representing Earth, with a yellow box containing the word "Output" in the center. The globe shows some surface details like continents and oceans, though they are mostly obscured by the blue color and some bright spots. The word "Output" is written in a black, serif font inside the yellow box.

Output

Results

- Budget = last year + small Wakeham bonus
- 70 new FTEs (61RA +9 Tech)
 - 81 FTEs (71R+10T) including SG fold-ins
 - cf 63 FTEs 2010 (56R+7T)
- 22 FTE Investigator time
- 19 Investigator only awards
- Average Inv.time per RA = 28%
- Average Inv.time per attached RA = 23%
- Average success vs baseline : 70%
- Average success vs bid : 36%

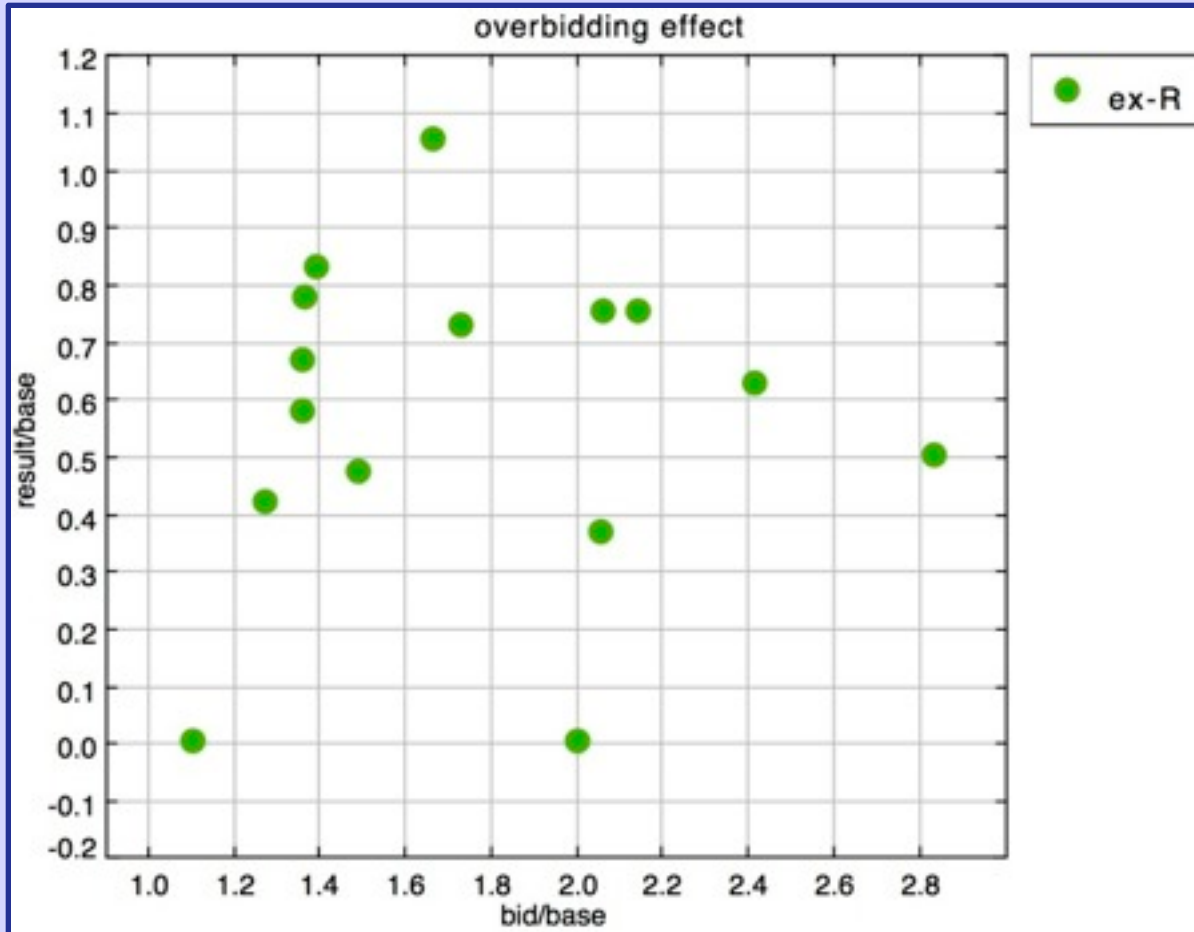
Group analysis



Consistent performance - but shot noise worse for small groups !

Note "baseline" ambiguous for ex-standards groups

Success vs overbidding



Scatterplot, with possible tendency for large overbidding being detrimental

Analysis only meaningful for ex-rollers

Examples of funded science

- a new generation of solar magneto-seismology models
- a project to detect fireballs, predict their landing sites, and collect the associated meteorites
- detection and characterisation of the brightest exoplanets
- the assembly of galaxy structure over cosmic time
- the study of new materials for radically new types of detector
- numerical modelling of the Milky Way in preparation for Gaia
- measuring and modelling the interactions between planetary rings and satellites

Distribution over science areas

- Astronomy observation 50%
- Theory (incl solar and planetary) 25%
- Planetary 19%
- Solar studies 16%

- Ground vs Space very ambiguous
but roughly 60:40

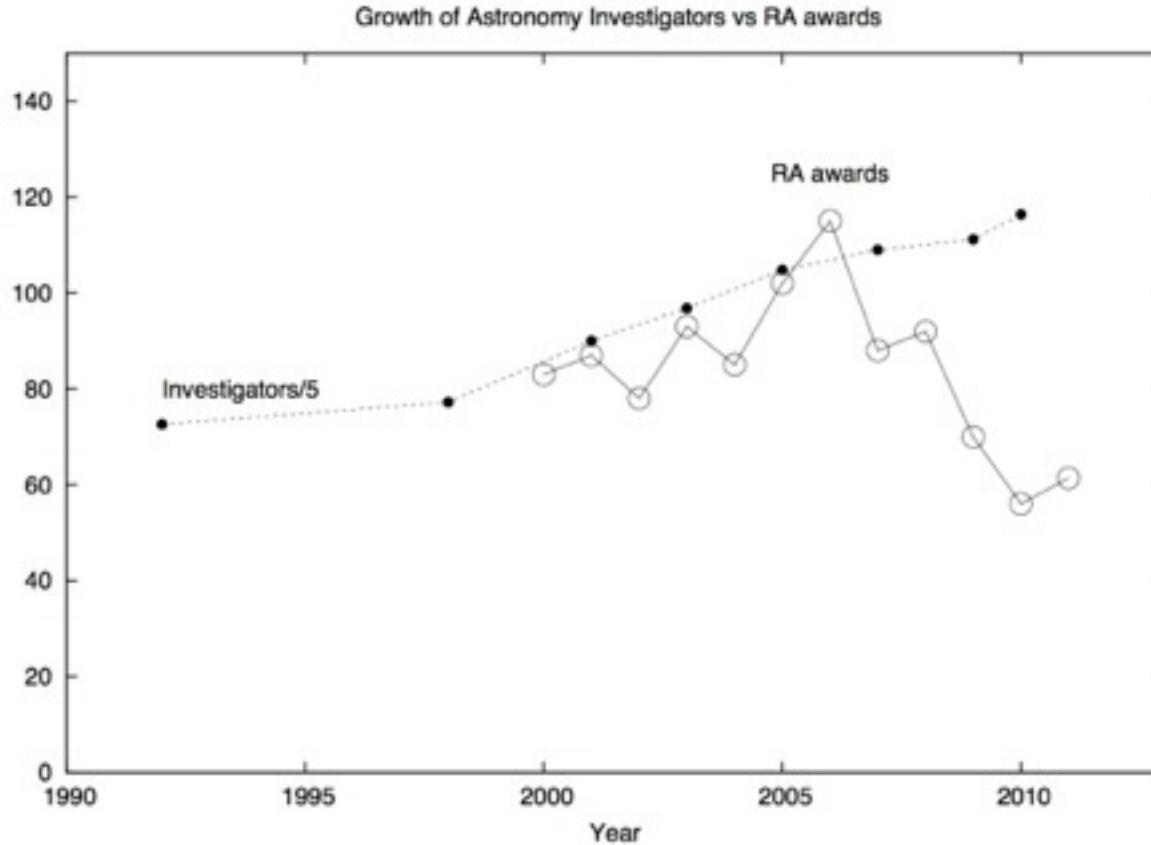
A blue-tinted image of a globe, possibly representing Earth, with a yellow box containing the word "Issues" in the center. The globe shows continents and oceans, though the colors are monochromatic. The word "Issues" is written in a serif font within a yellow rectangular box with a thin red border.

Issues

Grant evolution

- What is the truth about the history of astro grant funding over many years ?
- Has it been driven upwards by academic community growth ?
- Or has it been relentlessly squeezed ?

Figures provided by
C.Vincent, P.Crowther,
and A.Liddle



- Community growth has been real but is flattening off
- In 99-06, PPARC responded to this growth
- Since then, grants have fallen precipitously w.r.t. both enhanced level **and** original level

Grants and the Cable test

- Current funding level is :
 - 49% of 2006 peak
 - 67% of 2000 baseline
- We are funding :
 - 67% of "high priority" proposals
 - 74% of those "competitive with best in world"
- A return to 2000 baseline would match the "Cable test" quite precisely

Community Impact

- Well known substantial groups have continued to (relatively) well
- A few groups emerged with zero support
- Several more groups have only one RA
- FEC based investigator support at low levels
- Some excellent individuals attract no FEC support
 - it cannot be a "research active" badge

Effect of Investigator costs

- If we reduce investigator time more, will we get more RAs ? Yes, but not many..
- For fixed total cost, and observed cost ratio, relative number of RAs versus $f = \text{Inv. months} / \text{RA. months}$ is as follows :

$f=0.33$ $R=65.3$

$f=0.28$ $R=69.9$

$f=0.20$ $R=75.6$

$f=0.10$ $R=86.1$

Other issues

- SSC system doesn't have the functionality we need
- Slightly unbalanced 3-yr cycle
- FEC decay has serious policy issues
- Hard to respond to new consortium opportunities
- Worried that some facility and instrument work may fall between stools