



University of Glasgow | Faculty of Physical Sciences

Research Leadership - the view from the P.I.

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University of Glasgow
My Background

Ph.D. in Physics	1991-95 (Glasgow)
Research Assistant	1996 (Glasgow/Stanford)
Staff Scientist	2001 (Glasgow/Stanford)
Reader	2003 (Glasgow)
Professor	2006 (Glasgow)

FRSE, FirstP, Leverhulme Prize for Astronomy and Astrophysics 2005

Currently PI or Co-I on ~£15M in awards
8 postdocs, 6 research students

Member of the Particle Physics, Astronomy, and Nuclear Physics, Science Committee of the Science and Technology Facilities Council
Member of a number of international research strategy and advisory committees


University of Glasgow
Requirements for success as a PI - 1

Have a vision for a research programme and goals ~ five years ahead of the present

Establish a collaboration base in a department and more widely – nationally and internationally. Know where, as a PI, one fits in

- **Must balance research, teaching and administration carefully....**

– contribute to relevant committees, but mustn't be co-erced into sitting on too many..

– teach with enthusiasm but efficiently

How to help new and aspiring PIs?:

- *Have a transparent workload model for distributing teaching and administrative loads*
- *Aim to implement effective but efficient teaching methods*
- *Be aware of gender (and other)-specific issues re service committee membership*
- *Provide courses or fora for new and aspiring PIs where discussions of the above can be raised...*



Requirements for success as a PI - 2

Understand the broad strategy of PI's own subject area in the UK (if it exists) – follow the politics of the relevant government department e.g. DIUS, the relevant Research Councils and the SFC

Read Research Fortnight and the Times Higher



Requirements for success as a PI - 3

PI should:

- pay attention to Faculty and Departmental Strategy (and how it fits in nationally) and discuss aims with HoD (PDR) and Dean when appropriate
- find and talk to Dept/Faculty Research Convener and Faculty Administrator

How to help new and aspiring PIs?:

- Ensure clear channels of communication throughout Dept/Faculty/Univ. of respective research strategies and goals of these units
- Ensure regular Performance and Development Reviews are carried out where an individual PI or researcher's goals can be reviewed, discussed



Requirements for success as a PI - 4

A PI must keep abreast of Research Opportunities but not become overwhelmed by jumping for every possible opportunity

Prioritise

How to help new and aspiring PIs?:

- Have a structured method of advertising upcoming grant/fellowship/studentship calls to new PIs and researchers in good time
- Provide mentoring from experienced staff on how to apply to these calls (and when it is or isn't appropriate to do so)



Research Strategy – applying for grants 1

Start in a modest way with the intention of building up over the succeeding years

Select funding opportunities carefully - ones that are relevant to a PI's aims.

How to help new and aspiring PIs?:

- Provide mentoring from experienced staff on when and how to apply to these calls



Research Strategy – applying for grants 2

PIs need to carefully read the criteria in the announcement of opportunity or grant call

Make every effort to obtain the assessment criteria as supplied to referees

PI needs to construct an application to match the grant criteria, checking that the assessment criteria are clearly addressed – experience suggests the latter criteria can be much more incisive...

How to help new and aspiring PIs?:

- Provide mentoring from experienced staff on writing grant applications
- Be prepared to provide examples of previous successful applications as exemplars



Research Strategy – applying for grants 3

A PI should try to get some experience in reviewing grants

Excellent way to gain understanding of what makes a successful (and unsuccessful...) application

How to help new and aspiring PIs?:

- Managers of new PIs and research staff should systematically work to nominate younger staff for peer review committees when calls for are made



Research Strategy – applying for grants 4

Applications need written simply and clearly – a PI should ask a colleague to read the application to check for clarity of aims as well as infelicities and typos. (Referees can be infuriated by careless applications...)

How to help new and aspiring PIs?:

- Provide mentoring from experienced staff via 'Research co-ordinators'



Research Strategy – applying for grants 5

A PI must:

- sell their potential strongly based firmly on documented prior work but not oversell
- not exceed specified number of pages or word count.....
- check costings carefully with Univ. administrators (very important in FeC era)

How to help new and aspiring PIs?: mentoring as above and-

- Have in place strong financial and administrative support for application costings
- Provide clear information on how budgets are constructed and managed in your institution



Research Strategy – applying for grants 6

A PI should not under-ask when applying for resources - funding agency may cut a proposed award anyway then a project can be non-viable.

But should not try to over-ask. The PI with 2 postdocs who then asks for 8 rarely succeeds and damages his/her credibility

How to help new and aspiring PIs?:

As before:

- Provide formal mentoring from experienced staff who've been successful in the grant-getting process.



Group Management – PI issues

Have fun and enjoy the research

A PI aspiring to research leadership should look after their students and postdocs as the student/PDRAs success is a PI's success

Pay attention to their career management in terms of opportunities for talks, publications and future jobs

How to help new and aspiring PIs?:

- Provide guidance and training for PIs on how to conduct PDRs of the researchers they are responsible for
- Provide direct courses on presentation skills, time-management, team-working etc for PDRAs



And finally, but most importantly...

Talk at international conferences and aim for plenary or invited presentations if possible

Publish significant research in accredited journals –
(Or books if appropriate..)

Publications are the basis of career progression and future grants (and RAE/REF evaluation..)

How to help new and aspiring PIs?:

- Clearly communicate to PIs the requirements and goals of REF, and how your Dept and institution plans to manage the process as soon as possible
