
Assessing and addressing the development needs of early- career fellows at Imperial: report

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January 2016

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Executive summary

A study was conducted of the learning and development needs of early-career fellows at Imperial. Using surveys, interviews, a focus group, emails and telephone conversations with a range of stakeholders, the study has established that fellows are self-directed, independent and agentive: taking responsibility for their learning and trying to find the answer for themselves. This finding suggests that the PDC should prioritise making resources available to enable people more easily to find out what they need to know. We identified developmental needs on:

- Orientation to new contexts, especially since a large proportion of fellows are new to the UK
- Planning forward and being strategic
- The personal aspects of work and self-development
- Institutional structures and politics
- Educational management and leadership
- Other activities including technical training

An overarching need relating to several of the above categories is for mentoring.

The report recommends:

- a. Expanding online resources, especially the creation of visual materials and videos, to support orientation
- b. Establishing and supporting internal mentoring arrangements for all fellows, and taking part in the proposed new cross-institutional mentoring project

- c. Further publicising the very effective and well-regarded interview practice sessions
- d. Alongside the regular, compulsory development days for JRFs and the Fellows' Forum meetings, setting up faculty-based networking meetings for all early-career research fellows
- e. Adapting the Managing your First Research Group course so that it runs three times a year instead of twice, and one out of the three iterations is focused on people who are beginning to run a research group rather than those who aspire to do so
- f. Establishing practical workshops on research grant applications, in which participants do some real drafting and give and receive feedback
- g. Setting up a lunchtime induction workshop for new fellows
- h. PDC staff developing further their de-centralised approach, with team members being physically present in the departments as much as possible so as to become the 'go-to' person for advice
- i. Re-branding some existing courses so that it is clear they are for both postdocs and fellows, and breaking down others so that some iterations every year are explicitly targeted at fellows
- j. Providing information for fellows on the discipline-based and DTC initiatives such as sandpits and hackathons taking place at Imperial
- k. Working with the Vice-Provost (Research) and Clare Lloyd to seek funding for partial buy-outs of the time of one senior person in each department in which fellows are employed, to act as a two-way channel of information and source of advice
- l. Tracking early-career fellows as to careers, satisfaction etc. and using this information to influence future provision

Purpose and objectives of the study

1. This study of the development needs of early-career fellows at Imperial was conducted during July-December 2015 and set out to deliver the following outputs:

Data on the scope and quality of current provision:

Map current provision and take-up across departments and faculties in order to build an accurate picture of support and development resources currently available to Fellows; the resource providers (departments, faculties, fellowship funders); and the usefulness of current resources

Views on:

- a. the quality, accessibility and overall usefulness of current provision
- b. perceived gaps in current provision
- c. relevant and appropriate interventions to address gaps

A detailed programme of support and development for Imperial's Early Career Fellows grounded in the findings of the scoping project:

- a. in depth, evidence-based recommendations to underpin the development of the programme outlining key gaps being addressed and a strong rationale for each intervention
- b. a detailed outline of the programme to be developed

Methodology

2. The project was conducted by Rebecca Nestor, Anne Augustine and Felicity Cooke, with analysis and advice contributed by Lynn McAlpine. Project activities are described in the following paragraphs.

Funding bodies

3. We began by talking with staff in some of the funding bodies, using contact details and an introduction supplied by Angela Kingman. The notes from these conversations are in Appendix 1.

Announcement, invitations and compensation for time

4. Respondents were invited to take part in any aspect of the project using a database of current fellows supplied by the PDC and using email text agreed with the PDC. Reminders were sent to those who did not open the previous emails, or who opened but did not click through to any of the options.
5. We conducted a search on the websites of other research-intensive universities in the UK and created a database of academics who had formerly held early-career fellowships at Imperial, and PDC staff emailed current fellows asking them to contact colleagues who had formerly held fellowships at Imperial.
6. An announcement was placed on the PDC website, and short reminders were provided for inclusion among the Imperial campus TV screen announcements.
7. Part way through the project, when it became clear that take-up for interviews was low, it was agreed that interviewees would be offered a John Lewis gift card (those who had already agreed to be interviewed were also given the cards).

Surveys

8. We conducted two surveys, one for current fellows and the other for former fellows. The survey questions are given at Appendix 2 and focused on:
 - Priorities for self-development during the fellowship (adapted from published frameworks for researchers in Europe)
 - Views on how development could be supported
 - Views on PDC provision
9. The surveys ran from August to October 2015. The survey of current fellows closed with 41 responses; 15 were received from former fellows.
10. The number of responses was sufficient for our purposes, but not enough to make significance testing a meaningful exercise. Survey results have therefore been treated with caution, and conclusions have only been drawn from them if they are confirmed by other data sources.
11. To assess the representativeness of the respondents to the survey for current fellows, checks on gender and faculty were run, using a spreadsheet provided by the PDC and dated April 2015. From these approximate checks (see figures 1 and 2) it appears that respondents do roughly map on to the wider demographics within Imperial in terms of representation of faculties. Women are slightly over-represented, and this is a known issue in survey responses.
12. Of the current fellows, 16 of the 41 (39 per cent) held junior research fellowships. This is a slightly higher proportion of JRFs than responded to the earlier survey conducted by the PDC in 2014: the 2014 survey had 11 JRFs out of 34 respondents (32 per cent).

Figure 1: male-female demographics

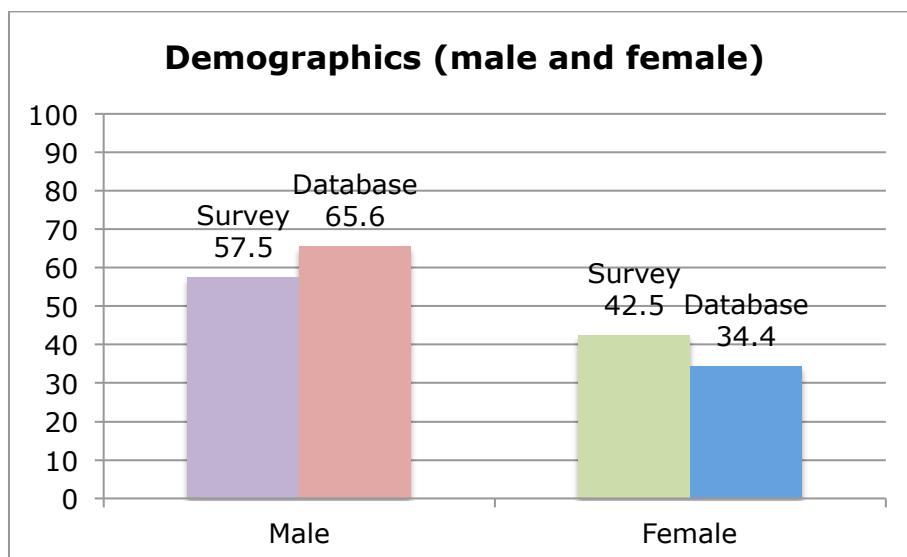
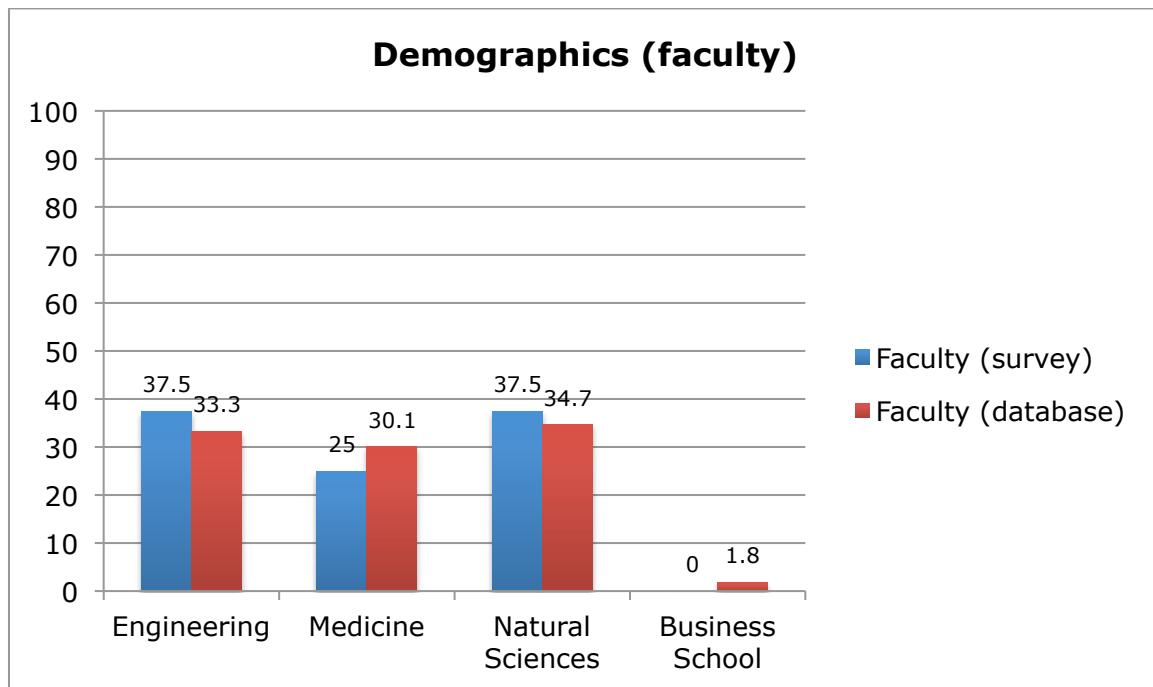


Figure 2: faculty demographics



Interviews

13. We conducted 19 interviews. Of these, 10 were with current fellows (five men, five women), six with former fellows (four men, of whom one was also a PI; and two women), and three with PIs (who volunteered after the two research committees we attended – see paragraph 17). The outline of the three different kinds of interview is at Appendix 3, and the categorised and grouped responses are at Appendix 4.

Focus group

14. We held one focus group, with six current fellows participating. The plan had been to hold two, but only one had enough participants to be viable. The notes from the focus group are given in Appendix 5.

'Email us'

15. For those who did not want to take part in the survey, interview or focus group, we offered the option to email us with their thoughts. The option included the following prompting questions:

- How is being a fellow different from being a postdoc?
- What do fellows need to learn?
- How can fellows' learning be accelerated and supported?
- What does your funding body offer?
- How can Imperial complement the funding body offer?
- Have you got experience of the Postdoc Development Centre's provision?
- What do you think of the Postdoc Development Centre's provision?
- How could the Postdoc Development Centre better meet your needs?

16. Six people emailed us their thoughts, and we collated and organised them according to the prompting questions if necessary. The responses are given in Appendix 6.

Research committee meetings

17. Accompanied by PDC staff, we attended two meetings of research committees: the Academic Health Science Centre committee and the Natural Sciences committee. We presented the project, and invited input and advice on the learning and development needs of early-career fellows from those present. We also invited committee members to volunteer to take part in a short interview, and three people came forward in response. The notes from the committee meetings are in Appendix 7.

Other employers and reading

18. A small number of conversations and web searches took place in relation to other HEIs with large populations of fellows. The outputs of recent research on the transition to being a PI were also studied (see **References**). The outcomes of this activity are provided in Appendix 8.

Analysis

19. All members of the team read the survey results, interview notes and other evidence sources, and contributed to the process of identifying themes: a rough-cut followed by a more in-depth analysis.
20. In the surveys, respondents were asked to rate a set of developmental priorities according to how important they felt they were for them personally during their fellowship. Weighted averages for each item were then calculated, giving the ability to identify the highest and lowest priorities.
21. We then identified the highest and lowest priorities for fellows in terms of what they feel they need to learn during the fellowship. We have also been able to make comparisons between current and former fellows in this respect, and between JRFs and non-JRFs. This analysis is given in Appendix 9.
22. The interview statements, free-text survey comments and focus group notes were first read for a rough-cut sense of the emerging themes. The interview statements were then coded by two team members and finally sorted to assess the volume of responses under any one code, with the themes then amended to take into account the coding and sorting.
23. A separate read-through of all the evidence generated a small number of additional themes. This stage also confirmed good consistency between the different respondents.

Findings

Approaches to and issues with learning

24. Fellows interviewed spoke of being self-directed, independent and agentive: taking responsibility for their learning and trying to find the answer for themselves. 'I'm self starting – look at the literature, look on the College website, go and seek expert help, contact people by phone.' [Current fellow, female]
25. Respondents had a set of concrete independent strategies, and another set of strategies that we have named:
 - Seeking others locally
 - Accessing institutional resources
 - Seeking others externally
26. In other words, their first strategy appears to be to go it alone, the second is to seek advice from local colleagues in their own department, the third is to draw on their network. Examples were provided of learning from negative experiences to do things differently. Only a small number referred to the PDC in answer to the question about learning: responses to the PDC's provision tended to come up only in response to the specific question about this (see paragraphs 41-43 below). Very few interviewees referred explicitly to their sponsor, and some said in response to questions that they did not really have one.
27. Moving from one field to another involved recognising the need to do this, staying open to new topics, learning the vocabulary of the new field. An aspect of these moves involved re-establishing one's identity, and perhaps identifying oneself as a bridge between the two fields. Some note the value of stepping out of academia for a while and developing alternative perspectives on their subject (one respondent reported blogging about her discipline while being temporarily out of employment).
28. Some had experience (elsewhere) of needing a course and it not being available or being too expensive. Several had not been aware of the PDC provision at the time when it

would have been useful to them. This was often mentioned in the context of describing unmet needs. Obstructions to learning included pressure to keep applying for grants and the fellowship being too short for them to qualify to write big grants (this particularly applied to JRFs). Obstructions to accessing formal training were lack of time and priority given to urgent tasks rather than important ones. Further, there were conflicting views expressed – a reminder that programmes cannot meet all needs.

29. At one of the research committees attended, a suggestion was made that creating a greater sense of 'cohort' among non-JRF fellows would be valuable. We know that this is logistically difficult but it seems that it would be welcomed by fellows: 'They've done a really good job of fostering a sense of community among the JRFs, I would like to see that extended.' [Current JRF, female]. It was also mentioned during the conversations with funding bodies.

Learning focus and goals during the fellowship

30. The analysis in Appendix 9 shows that fellows are, unsurprisingly, focused on achieving academic independence through publication and success in research grant applications. They are much less likely to prioritise journal editing, conference organising, peer review (grants, papers), and academic citizenship. This may create problems in the longer term for them, as we know that it is generally through taking part in committees, journal editing, conference organising and other citizenship activities that academics develop their understanding of academic decision-making, policy and politics.

31. Respondents are also much less likely to prioritise managing teams and budgets; and undergraduate teaching and examining. This is not to say that they do not want support in these areas: indeed teaching and management were frequently mentioned, especially in the interviews. This suggests perhaps a perception that they are an unavoidable aspect of academic work (while publication and bringing in research income are seen as being at the heart of the academic endeavour): a finding supported by other studies e.g. McAlpine (2015) who describes new PIs' perception that the role 'called forth new, unexpected, and in many cases unwelcome, responsibilities that can be characterized as management-related – which distanced these researchers from actively researching.'

32. The analysis also suggests that current fellows may experience an anxiety about achieving continued funding which leads them to focus on making successful research grant applications, whereas former fellows, looking back, identify publication as the most important priority.

Needs identified

33. Drawing on all the evidence summarised above, we have clustered the needs identified by our respondents into six categories, which may make it easier for the PDC to compare with present provision.

34. An over-arching need, which relates to many of the six categories, is for mentoring. This is identified as important in particular by former fellows and funding bodies. As one former fellow said, 'I would have benefited from support of someone familiar with my role (mentoring/buddy/etc.).' We have identified the following arrangements for mentoring within the externally-funded fellowships:

- Leverhulme: expect institution to provide a mentor
- Royal Academy of Engineering: arrange a mentor
- Daphne Jackson: would like institutions to provide mentor
- Royal Society: provide their own mentors, and also think it's useful for institutions to provide one
- BBSRC: fellows have mentors
- EPSRC: piloting different approaches to mentoring

We note too that there are plans for a mentoring scheme being developed by the Research14 network in partnership with the research councils, and there is interest from Cambridge and Oxford in taking part in this.

35. *Orientation to new regimes, especially since around half are new to UK (strong sense of the importance of this from existing fellows)*

There were several comments about how difficult it was to understand the UK system. Comments covered Imperial's perceived bureaucratic approach and lack of a 'can-do' customer-focused approach among administrative staff compared with the USA; confusion over the UK's employment system, including maternity, paternity, how to work out how much you will be earning and what the living costs will be (important, but very difficult, to know this before arrival); and a long list of small items in relation to research administration, such as permits, equipment, authorisation to use certain equipment and so on.

36. *Planning forward (PIs, former fellows, funding bodies, research committees particularly focused on this, but it was also identified by current fellows)*

This is about being strategic, doing things now as preparation for what will be needed later, making the most of the fellowship time. Comments covered:

- Foreshadowing the future – decisions they will need to be making later on, getting grants, building a group
- Preparing to ramp up as lecturer: so much more than they will have done before with more competing demands
- Strategies for building profile
- Going abroad: how to build on this intentionally – especially if no international experience yet
- Writing funding proposals (not fellowships): a wish for a workshop where you draft and get feedback
- Publication strategies
- How to develop advanced research projects one step up from fellows
- Mentor programme including career development in and out of academia; individuals who have been through the system including interviews at all levels and demands of the institution; need to counsel 'out'; additional mentor outside their area
- Alternative career routes: job security is never going away – recognition that thinking you will stay is not real
- Need for institutional support for interaction for those at similar stage; but a contrary suggestion that not useful since need to have things that draw all levels within same field

37. *The personal (existing and former fellows discussed this in interviews, and it was a theme in the focus group)*

This area reminds us of how important the personal is in enabling professional success.

Themes included:

- Co-locations: knowledge of how systems work/ don't work
- Living in London
- Having children and being briefed on how to manage financially; maintaining profile; returning from maternity leave; feeling comfortable re-setting priorities, e.g. reducing hours at work
- Training on assertiveness, overcoming shyness, avoiding isolation – 'I'm one of the shyer people - lack confidence in asking questions in a seminar or with senior people'
- To know who you are, what drives you, how to listen to people and appreciate others' views
- Getting work-life balance right
- Networking attitude and practice

38. *Institutional structures and politics (particular emphasis on this from research committees and funding bodies)*

Within this theme there is a tendency for current fellows to be thinking about how to get the lab set up and find out how to get immediate things done at Imperial; whereas the

more senior respondents emphasised the need for them to understand the wider context:

- Understanding governance, how the academic world works: understanding research funding and university funding systems
- Recognizing points of conflict (practice/policy) and how to use; inserting oneself and playing role; understanding career structure for self and others; politics; what the different parts of Imperial do, e.g., comms office
- Setting up/managing lab including finances

39. Educational management and leadership

These areas were not rated highly as a fellowship goal in the survey, but support for them is seen as important by both existing and former fellows:

- Shorter, earlier teaching workshops (it appears people were not aware of the EDU's provision of practical workshops on teaching for postdocs, but there may also have been a reluctance to take part in provision so specifically aimed at a group perceived as more junior)
- Supervision, co-supervision
- Managing team, students: interviewing and hiring carefully, PDR, helping people develop; dealing with under-performance; building people's careers; leading; maximizing capacity; want advice from experienced people
- Networking and negotiating: creating long-term relationships in business and with external partners

40. Other activities

- Outreach
- Organising events
- IT research software and other technical training, e.g., qualitative analysis

Experiences of the PDC

41. Those of our respondents who were aware of the PDC tended to express strong appreciation of its resources and to make good use of them. We heard no criticism of the PDC at all. Others, perhaps those who were less aware of what the PDC has to offer, felt that Imperial did not always provide what they needed or that the PDC courses were not available to them for various reasons.

42. The responses tended to name Liz Elvidge specifically. Of particular note were the mock interviews, perhaps not surprising since these are tailored to individual needs, are just-in-time and relate to immediate potential career success. Also noted was the residential programme, probably because of its intense nature. At the same time, it was recognised that this centrally-offered provision had to be generic so could not address the particularities of specialisms. There were repeated comments about the need for the PDC to educate those who sponsor, mentor and advise fellows, e.g. supporting them to develop resilience and reduce stress and anxiety.

43. We asked respondents to say which, if any, of the PDC courses they had attended. Several respondents could not remember, and others were very general in how they described the courses; however, we think that the following courses (listed in descending order of frequency of mentions) were referred to:

- More than one mention: awaydays and workshops for JRFs; managing your first research group; supervising PhDs (EDU course)
- Only one mention: acting as a research consultant; aiming for a lectureship; effective voice projection; great presentations; innovation and project management; planning for an academic career; preparing successful fellowship applications; stand and deliver; principles of good writing

There were no mentions for any of the workshops on science communication, public engagement, consultancy or innovation.

Anxiety and confidence

44. A substantial proportion of former fellows said they had experienced high levels of anxiety and lack of confidence about their marketability. 'If someone sufficiently senior had pointed out how valuable I was, that would have been really useful.' [Former fellow, male]

Institutional issues

45. There is some evidence that Imperial is experienced as harder to navigate than other institutions: people feel that information is difficult to find and the institution feels bureaucratic and unwelcoming to some. 'Getting access to facilities feels quite difficult.' [Current fellow, male] 'I found out about external funding from peers, a little from Imperial.' [Current fellow, female] 'Someone should tell you. Many people come here from different countries and institutions, and things work differently.' [Current fellow, female]

46. The question of what fellows should focus on, and the consistency with which messages about teaching in particular are communicated, seems to be difficult. 'I spent all summer writing lectures. The terms of my fellowship say I can teach but it's not required. My department says I must make myself indispensable by teaching. Conflicting advice, but I believe my department.' [Current fellow, female] Some fellows have permission to supervise PhD students and permission to apply for grants; others say they do not, and there is clearly a difficulty with the JRF scheme here because its relatively short timescale makes PhD supervision awkward to arrange.

Recommendations

Principles

47. Any new provision should aim to respond to our findings about how fellows learn: specifically, the value placed on advice and support from more senior colleagues and people in one's own field. Priority should be given to:

- Creating **resources** that can be accessed as and when they are needed – for example, videos of current and former fellows and PIs recorded and posted online
- Actively **communicating** the existence of these resources to PIs and others in departments whom fellows are likely to approach for advice
- Improving **access** to mentoring and other forms of one-to-one advice and support.

Resources

48. We recommend greater use of visual materials, including videos, on the PDC website as part of the development of resources. Research shows that the incorporation of images into the educational process increases learning retention. See Appendix 10 for more on the use of visual materials.

49. Online materials could include the following:

- 'Talking heads': real current and former fellows and PIs talking about what they think new fellows should focus on, how they went about navigating Imperial and the UK system, and what they are now doing. The Wellcome Trust and National Institutes of Health Four-year PhD Studentships video <http://www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/PhD-funding-and-undergraduate-opportunities/wtd027399.htm> is a helpful exemplar. Industry examples include: Bayer Pharmacists in Product Supply https://karriere.bayer.de/en/entrylevel/graduates/pharmaceutical_production/ and Nestle Graduate Engineering Scheme <http://www.nestlecareers.co.uk/academy/content/explore/stay-connected/meet-our-people.html>
- A pack specifically aimed at new fellows from overseas, building on the information currently available on the HR/payroll website at <http://www3.imperial.ac.uk/hr/procedures/recruitment/overseas> and describing the UK employment system: tax, health, maternity pay, and the likely costs of living in

London. There is some information aimed at students at <http://www.imperial.ac.uk/study/living-in-london/> which could be adapted

- Materials to support the identity transition taking place. Dr Bill Dunn at the Oxford Learning Institute is working on a pack for new PIs which will be particularly focused on identity, and he is happy to share ideas (see Appendix 8)
- Materials to support staff management. The Oxford pack for new PIs will include information on these topics, and the Imperial pages at <http://www3.imperial.ac.uk/hr/procedures/support/keyprocess> may also be useful

Mentoring

50. A universal mentoring programme for all fellows would address the reported preference for local and more senior support on an on-going basis, especially given that not all our respondents appeared to have the same easy access to senior colleagues. Leading on developing an internal mentoring programme and working to promote its take-up would raise the PDC's profile even higher than it currently is. Fellows could be advised to use mentors for help with the following issues, all of which are identified by our respondents:

- Planning and prioritising
- Deciding what to say yes to, and sticking to the decision
- Networking – the value and purpose of networking in science, and how to do it well
- Dealing with anxiety and confidence, understanding your value with potential employers
- How to get things done at Imperial
- The role of citizenship activities in developing understanding of politics and policy

51. In developing a mentoring programme it might be helpful to consider the model adopted by the Institute for Clinical Research Education at the University of Pittsburgh, which uses a variety of mentoring relationships – including: one to one, team mentoring, multiple mentors, peer mentoring and distance mentoring. More information on these and their specific uses can be found in Appendix 11. This model would certainly reinforce the recent Vitae study (see **References**) that found that having a variety of mentoring relationships was extremely valuable for enabling researchers to realise their potential.

52. We understand that Imperial may be taking part in a forthcoming inter-institutional mentoring scheme within the Research14 network. We think that this would enable closer matching of disciplines and allow for greater exposure to the cultures of different institutions, and that it could be developed alongside an internal mentoring scheme.

One-to-one support and networking meetings

53. The interview practice sessions are hugely valued, and generally fairly well known (certainly very widely mentioned as an example of the good support from the PDC). A mention of them by one of the talking heads suggested above would help spread the word even further.

54. The role of the PDC in promoting and supporting cross-disciplinary working and networking by researchers is important, and the support it provides for JRFs is of course a key part of the JRF package. We are mindful however of the value of a sense of cohort for all fellows, not only JRFs. Alongside the regular, compulsory development days for JRFs and the Fellows' Forum meetings, could faculty-based networking meetings for all early-career research fellows be instituted? These would enable reasonably broad-based networking to take place while still being attractive to those fellows less naturally inclined to network across disciplines. The model of the existing development days for JRFs could be used as the basis for these new meetings, making them relatively easy to establish.

Courses and workshops

New or adapted courses on the following subjects would meet some of the identified needs.

55. Managing your First Research Group could be adapted so that it runs three times a year instead of twice, and one out of the three iterations is focused on people who are beginning to run a research group rather than those who aspire to do so. Content for this

group should include interviewing and hiring carefully, PDR, helping people develop; dealing with non-performance; building people's careers; maximising capacity.

56. A similar (but longer) programme at Cambridge includes coaching support, which is very highly rated by participants: this could be built into the new version of the programme.

57. Another exemplar is MIT's 'Leadership Skills for Engineering and Science'. It is a highly experiential two-day programme that is discovery based, and with "air time" for all to share ideas and insights. It uses short videos, case examples, role-plays, group work, short lectures, and conversations to investigate the topics below:

- Group culture
- Team leadership
- Conflict resolution
- Student advising and mentoring
- Motivation
- Emotions
- Diversity & difference
- Balancing work and family
- Reputation and tenure

58. Practical workshops on research grant applications, in which participants do some real drafting and give and receive feedback, would be valued by funding bodies and also by fellows. To maximise the value these would need to have a discipline-specific element, for example by running them in faculties or by making the numbers big enough to allow each faculty to be well-represented.

59. Given the reported absence of induction information and the high proportion of fellows who are new to the UK, a lunchtime induction workshop could be established for new fellows to help them:

- define their goals and set out a plan to achieve them, encouraging fellows to recognise their personal learning strategies and make their use more intentional
- manage their time to help them stick to the plans
- learn what institutional resources Imperial offers them

60. Such a workshop could be run twice a year in recognition of the varied start dates of early-career fellows; there could also be a slimmed down, one-hour 'pick-up-and-go' version that could be delivered locally for new fellows in departments and faculties in between the scheduled events. The workshops could be followed up with a 6-month postcard reminder; this would address the desire to be intentional and independent while also learning about pertinent resources to help them out.

Working practices

61. PDC staff could also perhaps develop further their de-centralised approach, with team members being physically present in the departments as much as possible so as to become the 'go-to' person for advice. This is difficult with a small team, but if the team's extensive network can enable physical locations to be found in those departments with the most fellows, team members could do their normal work in the department for half a day every fortnight, and become known and noticed. It would raise the visibility of the team members other than the head, responding to the tendency for fellows to refer only to Liz Elvidge when describing the value of the PDC's work.

Communication and adapting existing courses

62. A simple way to enable fellows to be clear that it is appropriate for them to attend PDC events is to brand them as being for both postdocs and fellows – in line with the general trend on the PDC website to refer to both groups. The Educational Development Unit's descriptions of its offerings on teaching could also be reviewed to refer more explicitly to early-career fellows where appropriate, especially the series of 'practical guide to...' workshops. For example, Assisting with PhD Supervision and Introduction to PhD Supervision would probably suit many fellows, but the description emphasises postdocs.

63. Existing career planning courses are valued, but it might be useful to run a proportion of all of these with the same or very similar content, but aimed more at early-career fellows than at postdocs.

64. Our findings (see paragraph 43) suggest that the following courses could be specifically targeted at fellows: acting as a research consultant; aiming for a lectureship; effective voice projection; great presentations; innovation and project management; planning for an academic career; stand and deliver; principles of good writing.
65. Bearing in mind the lack of reference from our respondents to PDC courses on science communication, public engagement, consultancy or innovation, the PDC could focus on providing information for fellows on the discipline-based and DTC initiatives such as sandpits and hackathons taking place at Imperial to promote cross-disciplinary, industry-focused working.

Strengthening support in departments

66. Given the focus on learning from local colleagues, and the tendency for people to trust others like themselves, it is recommended that the PDC should work with the Vice-Provost (Research) and Clare Lloyd to seek funding for partial buy-outs of the time of one senior person in each department in which fellows are employed, whose role would then be to provide advice and help to fellows, with a focus on those new to the UK. These advisers could also interact with the PDC and enable a two-way flow of information. This could sit appropriately alongside Clare's work clarifying the role of the sponsor.
67. We suggest too that the PDC work with Clare Lloyd to enable the tracking of early-career fellows as to careers, satisfaction etc. and use this information to influence future provision.

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8 January 2015