

Summary report

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# Wellcome Trust/DBT India Alliance Career Tracker

Results of wave 1 (2014)



# Wellcome Trust/DBT India Alliance Career Tracker

## Introduction

1. The Wellcome Trust/DBT India Alliance (IA) programme aims to strengthen the research base of Indian biomedical science by providing fellowship programmes to support researchers, from newly qualified postdocs through to senior researchers.
2. The IA Career Tracker is a longitudinal study that tracks the career progression of current and former IA fellows over time in order to understand how best to support biomedical science research in India.
3. The IA Career Tracker follows the model of the Wellcome Trust's Basic Science Career Tracker – an online survey tool launched in 2009 ([wellcome.ac.uk/careertracker](http://wellcome.ac.uk/careertracker)).
4. This report presents findings from wave 1 of the IA Career Tracker, conducted in 2013.

## Methodology

5. A short survey will be sent on an annual basis to IA grant holders in the final year of their award. Every year new cohorts will be added, while former respondents will be asked to update their career status.
6. The online survey was designed by the Evaluation Team at the Wellcome Trust in collaboration with the IA to collect career data from former IA grant holders. The Evaluation Team ran the online survey and carried out the initial data analysis.
7. The survey was launched on 9 December 2013 and was open for eight and a half weeks, with two reminders being sent. The survey was closed on 5 February 2014.

8. The following schemes were included in wave 1 of the survey:

- **Early Career Fellowships**, which provide support for postdoctoral researchers who wish to carry out research in India (five years)
- **Intermediate Fellowships**, which provide support for excellent scientists who wish to undertake high-quality research and to establish themselves as independent researchers at an academic institution in India (five years)
- **Senior Fellowships**, which provide support for outstanding researchers, who are either medically qualified or science graduates, who have led an independent research project and group and wish to pursue a research career at an academic institution in India (five years).

9. All fellows included in the study completed the survey, giving a response rate of 100 per cent.

**Table 1**  
Response by scheme

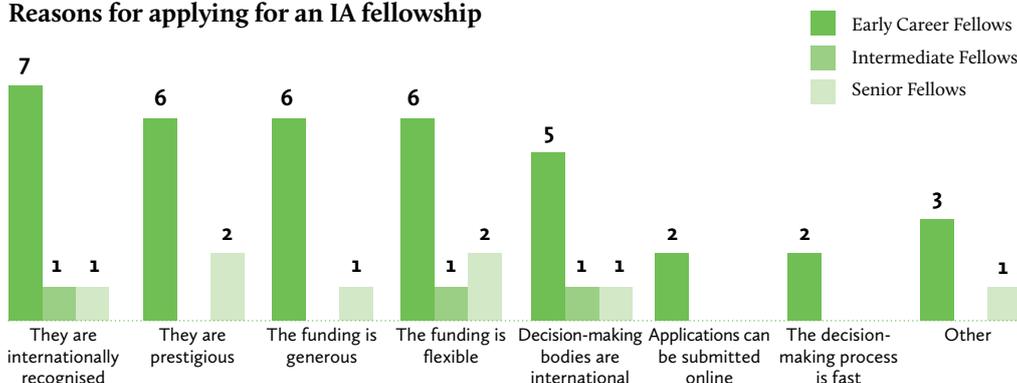
Cohort	Number approached		Number of responses		Responses (total)	Response rate (%)
	Male	Female	Male	Female		
Early Career Fellowship	5	2	5	2	7	100
Intermediate Fellowship	1	0	1	0	1	100
Senior Fellowship	1	1	1	1	2	100

## Key findings

10. Respondents were asked for their reasons for applying for an IA fellowship (Figure 1). 'Other' reasons for applying to the IA included the independence afforded by the fellowships.

**Figure 1**

### Reasons for applying for an IA fellowship



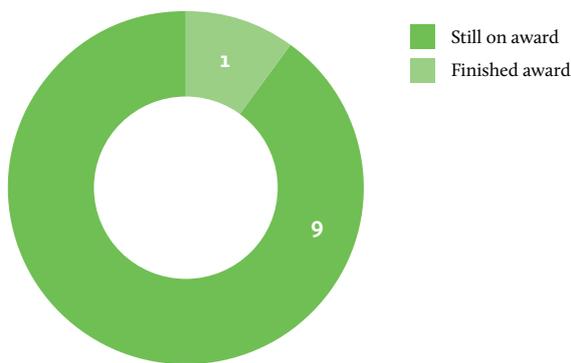
**Q. What were your reasons for applying for an IA fellowship?**

Base: All respondents (n = 10): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 2.

## Current fellows

- The majority of the participants in the study (n = 9, out of 10 respondents) reported that they were still on their award (Figure 2).

**Figure 2**  
**Award status**

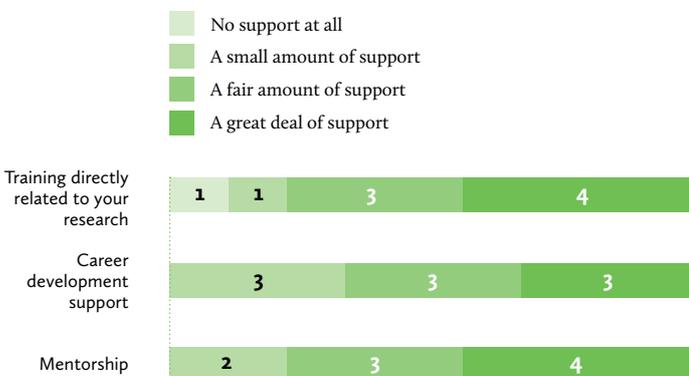


**Q. According to our records you are, or have been in the past, in receipt of an IA award. Are you currently still on this award, or have you finished this award?**

Base: All respondents (n = 10): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 2.

- Those still on their award (current fellows) were asked to rate their experience of their fellowship so far. All rated their experience as either 'very good' (n = 8) or 'fairly good' (n = 1). Current fellows were also asked how much mentorship and training they had received during their fellowship. The vast majority had received some mentorship and support in all areas (Figure 3).

**Figure 3**  
**Mentorship and training**



**Q. How much mentorship and training, if any, have you received during your IA award to date?**

Base: All respondents (n = 10): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 2.

- Those who commented on mentorship and training (n = 5) were positive overall about the support they had received so far:

*"For me, mentorship and career development support goes beyond just my proposed research. I have been fortunate to have received support and mentoring in various aspects of my research career and I am happy that it is shaping well."*  
Early Career Fellow

*"Fortunately, people involved in my fellowship allowed me to evolve as an individual researcher. While providing for almost unrestricted academic/intellectual support, none interfered in my decision making. Though it was a great way of learning, I did make a lot of mistakes that temporarily crippled me, but at the same time I evolved fast. One thing that was very disturbing initially was that none of my mentors/sponsors provided me with additional financial aid (on top of my grant) to take care of the research expenses. But in the long run, this was in a way the best thing that could have happened. Being limited in resources, my appreciation for quality experimental design became greater. I started being more careful in my utilisation of resources and planned better-quality experiments. I learnt to plan. And this allowed me to handle projects with greater efficiency. And I believe that the purpose of mentors is not to pamper you, rather to harden you to face the challenges ahead. And that's what all of them did. I have had access to state-of-the-art technical training and resources that have provided me with skills that very few people in the country possess. I am really thankful to my mentors."*  
Early Career Fellow

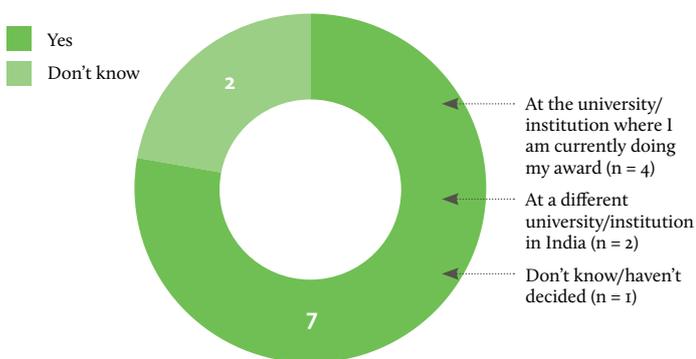
*"Mentorship: In spite of the fact that my mentor's lab's focus is different from my requirements, I feel she is trying her best to help me as much as she can. Career development support: I have had discussions about the career options with several peers, including my mentor, but I am still not very clear on my path ahead. Training: I have received some training from another lab, but most experiments have evolved with time."*  
Early Career Fellow

*"Mentorship I have got from colleagues, and training through the conferences that I could travel to with the Wellcome Trust/DBT India Alliance funds."*  
Intermediate Fellow

*"I received some initial mentorship from two senior colleagues at my institute who shared their experience as Wellcome Trust international fellows. Support for travel to international meetings is what I am considering as career development. I have attended a training workshop related to my research, but that was not supported by my Senior Fellowship. One suggestion I have is that the comments and feedback on our annual progress report be shared with the fellows. This will help mould our research direction."*  
Senior Fellow

14. Seven current fellows expressed an intention to remain in academia following the completion of their awards: four at their current university or institution; two at a different university or institution in India; while one was unsure where they would continue their academic career (Figure 4).

**Figure 4**  
**Career intentions**



**Q. Do you intend to remain working in academia once you have finished your award?**

**Q. Where are you planning to continue your academic career?**

Base: Current fellows (n = 9): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 1.

15. Reasons for remaining in the field of research included: intellectual freedom and independence; a fascination with biology; and a desire to contribute to the development of a vibrant research environment and student training in India.

*“Freedom to work on research questions of my interest and my choice; enthusiastic academic environment and support for basic research.”*

Early Career Fellow

*“Intellectual freedom; flexible hours; independence.”*

Early Career Fellow

*“Fascination with the natural world and how different biological systems work; curiosity about the delicate balance between health and disease and how exogenous agents (including infections) can alter this balance; technological developments in the recent years that enable measurement of most biomolecules in an unprecedented detail.”*

Early Career Fellow

*“I love to unravel the mysteries of biology, it is alluring for me. My work has never been a burden on me and I have not yet burnt out. I enjoy my work thoroughly. I enjoy working with my peers, who have a very open and free mindset. I find the counter-arguments with them very interesting as I learn more from them.”*

Early Career Fellow

*“I like research; my skills; evolving areas.”*

Intermediate Fellow

*“My desire to conduct my research within my home country and contribute to the development of a vibrant research environment and student training in India. My tremendous interest in tackling the research problem I have chosen – understanding the biochemical and physiological functions of a small molecule, which very few other researchers are studying. I hope to make far-reaching contributions to this field. Mentorship and training of graduate students and a desire to see them as independent academicians.”*

Senior Fellow

16. Respondents were asked to comment on where they planned to continue their academic careers.

**Continuing at university/institution of IA fellowship**

*“For the next four months I intend to remain at NCBS to finish the pending experiments. I am presently looking for an academic job elsewhere within the country.”*

Early Career Fellow

*“Good facilities and scope of further improvement with time. Premier institute of/department of biotechnology.”*

Early Career Fellow

*“I am still setting up the lab. So wouldn't want to leave till I have taken full advantage of the setup.”*

Intermediate Fellow

*“I may continue at the same or a different institution within India, but not outside India. I wish to contribute to meaningful research in India and the training and development of Indian students. I believe that mentoring is the most important part of my career, and my emphasis is on thorough, meaningful and ethical research practices. While I may reach more students at a university, remaining in a smaller research institution will allow me access to better infrastructure.”*

Senior Fellow

**Moving to a different university/institution in India**

*“My current institution does not have a proper policy or plan for the Early Career Fellows to continue in the same organisation. In such a scenario, my current host institution is just one among many institutions where I can continue my academic career.”*

Early Career Fellow

*“I have been associated with my host institute for more than 10 years now. In the course of this period I have learnt a lot and evolved as a scientist. I have also contributed to several research projects at the institute. There are various reasons because of which I plan to move. A new place would provide me with fresh challenges and opportunities to evolve. There*

are several ideas that I want to work on which require a better and more advanced research infrastructure.”

Early Career Fellow

**Don't know**

“I have not yet thought about it very seriously. My focus is still in the mysteries that I am trying to resolve.”

Early Career Fellow

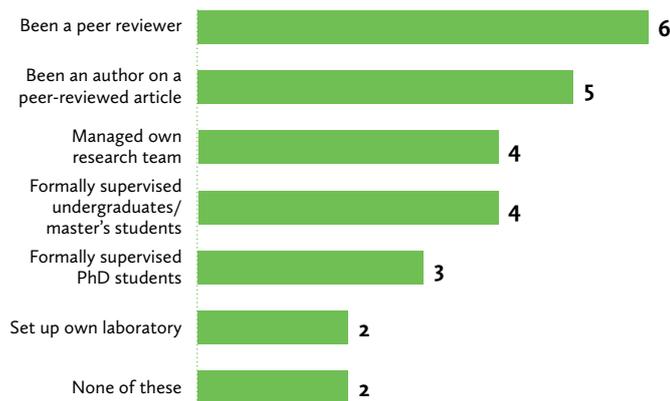
17. Those who were unsure about whether they would remain in academia mentioned that they might work in biotechnology or the pharmaceutical industry (n = 1) or science communication or outreach programmes in the fields of wildlife, the environment and culture (n = 1). One respondent commented on why they might work in science communication or outreach programmes:

“Lack of awareness of the common man of the need for research and the outputs obtained that can benefit them; we are funded by them, we need to reach to them. Help organisations/individuals/teachers to correctly educate the mass scientific realities (and help them avert hoaxes).”

Early Career Fellow

18. The majority of current fellows (n = 7) mentioned that they had undertaken various research activities (from a defined list) during the last 12 months (Figure 5).

**Figure 5**  
**Research activities**

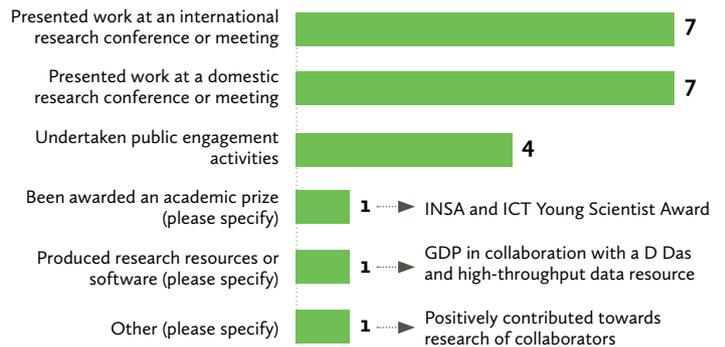


**Q. Within the last 12 months, have you undertaken any of the following in relation to your IA award?**

Base: Current fellows (n = 9): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 1.

19. All current fellows had achieved or produced at least one output related to their research during the last 12 months (Figure 6).

**Figure 6**  
**Achievements and outputs**



**Q. Within the last 12 months, have you achieved/produced any of the following outputs related to your IA award?**

Base: Current fellows (n = 9): Early Career Fellows, n = 7; Intermediate Fellows, n = 1; Senior Fellows, n = 1.

## Post-award (n = 1)

20. Only one respondent to the survey had finished their award. They were employed full-time (on a five-year tenure track) as a professor and head of department working in academic research and teaching, and were based in Germany. They were receiving funding, as a co-applicant, from the German Research Foundation.

## Working in academic research: improvements and challenges

21. All respondents were asked to give their opinion on what had improved in academic scientific research over the last three years. Respondents mentioned: improvements in research facilities; more job opportunities due to an increase in the number of scientific institutes; better funding; improved access to information online; more collaborations between researchers; a better scientific culture and better engagement across the country; and more 'world-class science' due to an influx of young researchers who have trained all over the world.

*"From an Indian perspective, there is an influx of very talented young researchers trained all over the world who are taking up faculty positions in various universities/institutes in India. This makes a lot of difference as we now witness world-class science in our own backyard. The funding situation particularly is improving, allowing researchers to take on big questions in biomedical research."*  
Early Career Fellow

*"Funding has increased, particularly for the young researchers. Research facilities in most institutions have been improving. Collaborations are on the rise among the researchers in India."*  
Early Career Fellow

*"In India the numbers of science institutes and experienced scientists have increased. This has resulted in a better scientific culture and engagement across the country. Also, the allied industries of services (e.g. sequencing, cloning, protein purification) have developed and reagents are a little more easily available."*  
Early Career Fellow

*"Better central instrumental facilities in many research institutes."*  
Early Career Fellow

*"Getting information online has become easier."*  
Early Career Fellow

*"There are more opportunities. But that comes with a pinch of salt."*  
Early Career Fellow

*"1. Funding options have increased in India. 2. Job opportunities in India have improved, with several new institutes coming up. 3. Scientific careers have also become more lucrative than in the past."*  
Early Career Fellow

*"Quality of scientists."*  
Intermediate Fellow

*"There are more young principal investigators in India with a can-do attitude, who are willing to take on challenging problems and challenge conventional wisdom on the 'best way to do science in India'. (Conventional wisdom encourages us to stay within our comfort zone and shy away from international competition.)"*  
Senior Fellow

22. All respondents were also asked what they thought had become more challenging in academic research over the last three years. Respondents mentioned: the inconsistency and sustainability of funding; publishing pressure (particularly the difficulty in publishing from an Indian rather than a Western laboratory); a lack of collaborators; budgeting for high-throughput technologies; and the generation of novel research ideas.

*"Lack of right collaborations was always a problem."*  
Early Career Fellow

*"Publishing of course."*  
Early Career Fellow

*"Biological research has embraced high-throughput technologies and has also become very interdisciplinary. For people like me who use high-throughput technologies, it is challenging to get the required instrumentation infrastructure. Unlike consumables, this generally requires larger budget allocation upfront and many funding bodies are not necessarily tuned to cater to these requirements."*  
Early Career Fellow

*"To come up with novel ideas that are worth doing research. With access to the internet, you realise that every brilliant idea that the mind comes up with is already thought of and worked on. It is not difficult to do experiments (specially with the advent of technology), but very difficult to discover a problem. One now needs a 'more' open mind and a careful eye."*  
Early Career Fellow

*"Sustaining the funding and the funding policies."*  
Early Career Fellow

*“The inconsistency in government funding, likened to impromptu decisions made due to electoral conditions.”*

Intermediate Fellow

*“There is still a debate on whether Indian scientists are considered competent if they collaborate internationally. It is also still more difficult to publish from India than from a Western laboratory, especially for a new principal investigator. This ‘colonial’ mindset will still take some time to change, but I am optimistic.”*

Senior Fellow

*“Short-term publication interests and funding pressure with dubious indicators of scientific excellence.”*

Senior Fellow

*“Maybe I should not have returned to India, since funding is generous but inconsistent. There are sudden lacks of funds and approved funds are not allocated. Thankfully Wellcome/DBT is consistent enough to support research, without this I would have really regretted coming back.”*

Intermediate Fellow

*“I would have looked for greater institutional support to establish my laboratory faster. It took three years before I had the infrastructure necessary to conduct some essential experiments. This is not uncommon in Indian institutes, although it has improved over the last few years.”*

Senior Fellow

## Changes to career path

23. All respondents were asked what, if anything, they would have done differently in their career to date. While a number were happy with how their careers had progressed, a few mentioned changes they would have made, including gaining more experience prior to taking up their fellowship and seeking out greater institutional support.

*“I am quite happy with the way my career has evolved.”*

Early Career Fellow

*“My Early Career Fellowship provided me the best platform possible to prepare myself to be a future scientist. I think I got the best deal.”*

Early Career Fellow

*“I am really happy with the way I have reached here. I was always driven by curiosity, and my research, my mentors have allowed me to do exactly that.”*

Early Career Fellow

*“No – I am satisfied with the new directions that I have taken. Even though I had switched to a vertebrate model (which had a negative effect on productivity) – I am now with the right skill sets to integrate invertebrate and vertebrate technologies.”*

Early Career Fellow

*“I would have preferred to have joined a host institution with a properly defined policy of assessment and absorption of the Early Career Fellows into the institution.”*

Early Career Fellow

*“I should have taken a regular postdoctoral research experience and networked better before starting my Early Career Fellowship, as it might have helped me to use my scientific independence during this fellowship in a more effective manner.”*

Early Career Fellow

## Advice on starting an academic career

24. Respondents gave a range of advice to those just starting a career in academic research, including: choosing a good mentor and host institution; being involved in scientific discussions within both academia and industry; communicating your research; being dedicated and persevering; thinking broadly around your subject; and accepting criticism and having the resilience and confidence to deal with it.

*“I would advise to choose a good mentor (I have a good one) and a host institution with a collaborative environment.”*

Early Career Fellow

*“One can do whatever you want – but do remember how to get that funded.”*

Early Career Fellow

*“It needs lots of dedication, stamina, resilience and confidence to deal with criticism in order to succeed in the field of academic research.”*

Early Career Fellow

*“Have perseverance and rigour.”*

Early Career Fellow

*“Stick to the fight when you are hardest hit, it’s when things seem worst that you must never quit.”*

Early Career Fellow

*“1. Be part of as many scientific discussions as possible. That allows you to refine your thought process and also forces you to learn to convey your thoughts clearly. 2. Don’t be obsessed with your ideas. That masks your ability to look at it as an outsider. Sometimes it helps to be a critic of your own ideas. 3. Critics are your best friends because no one pushes you to think harder than they do. 4. In this career, communication skills are as important as the science you do in the lab. 5. Be broad in your thinking and keep pace with the technological innovations. 6. The process of science is slow, be prepared for that without getting anxious. Patience and perseverance are both vital in this career. 7. It is good to be engaged in conversation with scientists working in academia as well as those from industry. Both provide a different perspective on the big picture of the utility of your scientific research. These can be sometimes complementary and sometimes a contrast but it does not matter – it will be useful.”*

Early Career Fellow

*“If you love research, choose a place of research independent of its location in the political map of this world. If you have personal reasons then it is different: then you need to have external funding that has limited links to government funding.”*

Intermediate Fellow

*“1. Quickly understand the way the ‘system’ works and embrace it rather than use it as an excuse to complain about inefficiency. 2. While it is good to start small, do not put all your eggs in one basket. In the beginning is when you have maximum energy and can do many things, but do not overreach.”*

Senior Fellow

## Next steps

25. Wave 2 of the IA Career Tracker will take place in 2014 and will include an update from our existing cohorts and newly added cohorts.

