

## Commentary - from Karl Kadler (BSMB member)

### **A Career Development Fellowship is a stepping stone to an independent research career – have you thought of applying for one?**

*“Karl Kadler sits on the MRC Non-Clinical Fellowship panel. When I heard about this appointment, I thought it would be useful for Karl to explain to junior members of the BSMB how the fellowship scheme works. Supervisors might also benefit from this information in helping postdoctoral assistants achieve research independence”. John Couchman (Hon. Secretary).*

The future of cell-matrix research relies on our best postdocs establishing their own laboratories to answer challenging new questions of biomedical importance. If you think you are one of those postdocs, a research fellowship could be the ideal springboard to an independent research career. The MRC, Wellcome Trust, ARC and other funding bodies offer a wide range of fellowships to support researchers at different stages of their careers. Each awarding body has its own requirements and restrictions, as described on their websites. These fellowships are highly competitive but they are well within the grasp of many of the postdocs I see at BSMB, FECTS and other meetings. All that is needed is a bit of forward planning and some hard work!

*How do you know if it is time for you to step out on your own?* Preferably you will have 2-6 years postdoctoral experience and will have at least 3 first author papers in peer-reviewed journals with perhaps a few papers in which you are middle author. Some fellowship applicants have papers in which they are the corresponding author. This sends a strong message to the members of the interview committee that the candidate wants research independence. Your papers don't have to be in Nature, Cell or Science, but should be in reputable journals that reach your target audience and gives your work the best exposure to experts in your research field. You should be known to researchers outside your own institution. Preferably you will have given a talk at a Gordon Conference, a BSMB meeting, or given a Departmental seminar. These 'esteem' indicators show that you have taken a step toward independence and are perceived as a potential international researcher.

*What does a Fellowship provide?* Depending on the source, the Fellowship can provide funds for your salary, the salary of a postdoc or research assistance, and consumables for your research. You can also ask for small equipment such as pipettors, a PCR machine, balances, a microfuge, a fridge and a freezer etc. Importantly, the research Fellowship enables you to establish your own independent research laboratory without a heavy teaching load. You will need to make it clear that you want to focus your efforts on your research question and that you will be independent from your current postdoc mentor. This can be achieved by moving institution.

*What do you need to secure a Fellowship?* In addition to having the publications and esteem indicators described above, you need a biologically-important or biomedically-relevant question that you find fascinating and is fundable. Importantly, your proposed research has to be feasible. Therefore you will need preliminary data (especially if you are changing fields) and a host Department that will provide you with necessary training. Your Fellowship proposal has to be clearly written. Always get experienced members of staff to critique your proposal. It always comes back covered in red ink but this improves it! Always ask yourself the questions: Why am I doing this research? Who will care about this research? What will I do with the results and what

are the broader benefits? Perhaps your proposal will have 3 aims. Aim 1 might be a natural continuation of your postdoc research but make it clear in the text that this is “your” research. Aim 2 will be hypothesis-driven and will contain a series of experiments to answer a very important question. Perhaps there is controversy in your research field about a particular issue and you have a novel approach that will provide a forward leap in understanding. Ideally you will combine a multidisciplinary approach that will require both you and your postdoc to work together. No experiment is certain to yield insightful results so you need to be open about the potential pitfalls (there shouldn’t be many!) and what you will do to overcome them. This demonstrates that you have planned your experiments very carefully. Perhaps you will combine the skills you have learned in your PhD and postdoc with a new technique at your new institution. Aim 3 could be high risk (N.B. high risk should equal high gain) but might require you to learn a new technique e.g. making conditional knock-out mice, proteomics, a biophysical technique. This is where the justification to move institution can be made.

*How do you choose the right institution/department?* A Fellowship has to be sponsored by a Department or Research Institute. You have to find somewhere that will provide you with laboratory space, access to large equipment (e.g. centrifuges, animal facilities, imaging facilities), an office, and access to PhD students. Importantly, you will need to have an intellectual home where you can discuss research with like-minded individuals. Furthermore, a Career Development Fellowship is a training fellowship. Your new department will have collaborators and staff to teach you new research skills – this is all part of you wanting to become independent and moving to a new department. From papers you have read and people you have met at conferences, you will have generated a list of potential departments to host you. Discuss (at conferences, by email, and by telephone) the possibility of them being your sponsor. You should offer to give a Departmental seminar, giving you the opportunity to look at the facilities and identify potential collaborators. Take a look at more than one institution and make this apparent in your Fellowship application (perhaps in your list of seminars).

*What’s in it for the host institution?* The single most important task for a university is appointing the right people. Well-funded productive researchers, who can communicate their discoveries to a wide audience, form the core of all successful research institutions. But how do Universities find these people? How can Heads of Departments be confident that the person appointed will be able to raise grants, write papers, and deliver well-prepared lectures (if teaching is required). The task is made very much easier if the person is bringing their own salary, has already secured a grant (a Fellowship in this instance), and has given invited talks at conferences or departments. The Institution then has a few years to decide if they want to keep you – and for you to decide if you want to stay.

*Karl Kadler is Professor of Biochemistry, Wellcome Trust Centre for Cell-Matrix Research, Faculty of Life Sciences, University of Manchester, Michael Smith Building, Oxford Road, Manchester M13 9PT ([karl.kadler@manchester.ac.uk](mailto:karl.kadler@manchester.ac.uk)).*