

RSC 6: STUDENT AND RESEARCHER MOBILITY

According to Wikipedia *'Academic mobility refers to students and teachers in higher education moving to another institution inside or outside of their own country to study or teach for a limited time.'* How many mobilities does it take to obtain an academic position? None. So why does mobility matter and why do prestigious fellowships such as Humboldt both require and support mobility? From my experience academic career mobility can take place in several career stages and has an immense impact on personal development and the career. Mobility means placements for several months to years in usually another country, which is different to short-term visits or conference trips. Mobility is hard to organise logistically, one is forced to get used to different cultures, and sometimes one needs to learn a different language, overcome a multitude of barriers, and it is usually very rewarding. A clear purpose helps, such as picking up a new skill or simply gaining a particular experience. Naturally, personal interest in a specific culture must accompany mobility to make the most of it, there is nothing wrong with fulfilling a dream and living in a place of the world that one enjoys living in. If a person prefers nature over cities or has a preference for a particular culture this should be considered, while the career opportunity must be given also. Having fun and being in the right place helps, it is not unusual for personal relationships to result from mobility and this can of course be very life-changing. Here are some examples of career mobility at different career stages;

- ◆ **UNDERGRADUATE:** In the last decades there has been a huge increase in opportunities for coursework mobilities, in particular at the master level. International mobility has always been a necessity when home countries do not offer quality university education. Usually, this involves very high costs so either self-funding abilities or competition for scholarships is required. In Europe where student fees are typically low, great programs such as Erasmus or the German Academic Exchange Service (DAAD) exist to experience different education environments. The very best of students engage and learn a language which is especially enriching. Sometimes science is more accessible in a different language! It is a time when lifelong friendships are formed and early mobility tends to be very intense and has a huge impact on character building – fostering openness, awareness, connection and it can be a lot of fun. For those who are not able to carry out degrees in different countries, and it can be challenging enough to complete a degree without mobility, doing an internship or master's thesis can provide a less risky option to experience another environment and culture.
- ◆ **PHD:** If one is interested in doing a PhD and knows what topics would be ideal then it is wise to match the geographical region of choice with the expertise of potential supervisors. PhD is a long-term commitment and mobility can be arranged in various models. These are i) doing an entire PhD abroad, ii) doing a sandwich (or joint) degree between two universities, and iii) spending a period in another lab during the PhD (as a visiting PhD student). Some programs exist where PhDs are composed of one year in three different laboratories each, the usefulness of such an arrangement is yet to be established, it is possible that this is simply too much mobility to really stick something through and solve a tough problem. If one does an entire PhD abroad, which is a very common occurrence in the research environment, one needs to choose carefully. Firstly, funding must be in place to support such an endeavour. Secondly, a PhD is a very long-term commitment (a minimum of 3-4 years) and one has to consider the social impact of being away from home for such a long period, especially when funding to return for major events (weddings, illness of relatives, funerals, etc) may be limited. It is a huge issue in some countries, predominantly those of higher study fees when a supervisor knows that an entire family has collected money to enable this 'education' of the PhD candidate, and the performance is simply not there. It is better to focus on scholarships and be able to focus efforts on the research and picking up skills that are lacking. Any PhD mobility ought to focus on the question if the receiving lab has the required equipment, is the supervisor offering what is required (the choice narrows for a given topic) and is the mobility period long enough to actually complete the task. From IAMT experience visiting PhD students do really well if the project is well defined (a research proposal (see RSC2) is required for the period at IAMT in this case) and the period is one year. While the minimum period to visit IAMT is six months, this does not allow much room for things to go wrong (and they do). In a year a PhD candidate can usually achieve a good paper, highly productive (or particularly lucky) visiting PhDs often even more.

- ◆ **POSTDOC:** The most suitable time for research mobility is traditionally the postdoc phase. In the PhD expertise was developed and international contacts established, which will naturally result in opportunities. Everyone likes proactive young researchers with well-developed expertise interested in their work and joining their team, and most of us are bogged by ill-suited random enquiries. Invest some time and you will easily be able to generate enthusiasm. In a postdoc phase, it is important to realise that i) the postdoc phase is time-limited (I would say 5 years max) and ii) there needs to be a focus on developing your profile. As explained in RSC5, the postdoc phase is more about productivity than just learning (it is not a second PhD) thus the receiving lab has an expectation that things get done, while a new additional skill can be developed that ought to complement the postdoc's track record. When I recruit a postdoc, I look very carefully at what skill someone will bring, what the person is likely to learn at IAMT and what that person can add to the team. This is about both the career development of the individual and building a productive team. At this level, it is necessary that a postdoc has relevant experience – in most cases at IAMT membrane filtration. It has not been overly productive to introduce a postdoc with no engineering background to engineering (mass transfer, membrane technology principles, or water and wastewater unit operations). It takes quite exceptional skill to really master interdisciplinarity and an exaggerated ambition is likely to result in frustration. At IAMT the focus is on experimental membrane process engineering, and many other things can be learnt (e.g. micropollutant analytical tools, modelling (usually in collaboration) or material modification (often in collaboration)). Have a think about what skill you need to create a profile that will enable you to secure the next position, but be realistic as to what you are able and willing to pick up.
- ◆ **ACADEMIC:** Being an academic is in my view a very international affair with the PhD being in some ways an international passport. Mobility to follow opportunities is often a requirement to secure a group leader or professor position, or to get promoted. Yet, this process can be self-selective as many researchers are simply not mobile and feel that their alma mater ought to offer the desired position or promotion. As an academic, other than applying for positions internationally, most professors can take a sabbatical year. This means, traditionally, one year every seven years to spend away from home commitments (teaching and admin) to experience another environment while spending a lot of time writing - or learning a new skill. Many choose to take a sabbatical of half a year, maybe more often. This is highly rewarding but causes inconvenience with teaching and other responsibilities at the home institution, which can make approvals challenging (and political). At this career stage, most academics have families which makes a real sabbatical logistically difficult to organise, while it can be a superb life experience for families. A sabbatical can be used strategically to gain promotion (following a productive publication phase where things are finished off), new collaborations, new strategic directions and sometimes even result in a career move. Hosting a visiting professor is cool for the receiving group also, as new impulses are brought in and nice collaborations can be initiated. As with all things one needs to reflect what one is trying to do and there is nothing wrong with choosing the location in a place where one always wanted to spend time, besides, not instead of, the research opportunity of course. In that way, it can also be a much-needed break from typically extremely heavy workloads. It should be noted that a sabbatical is not intended as a holiday and finding funding is a prerequisite, although a lot of schemes exist.

How would one go about it? As an undergraduate, the first stop would be the international office. Universities often have partnerships, joint programmes or bilateral agreements that facilitate contacts, course accreditation and funding. Beyond existing institutional arrangements, dare to ask – approach your professor about their contacts and maybe they can help enable a dream. Write to the supervisor of choice with a thoughtful email or during a conference and most supervisors will be thrilled about the interest. Refrain from emailing many potential host with the same email. Good candidates have already looked at possible funding options and this helps a lot. Initiative and professionalism stand out and most professors enjoy enabling careers. Naturally, no one wants to damage their reputation by sending ill-performing (and sometimes ill-behaved) students abroad so make sure that you are taking care of your conduct and prepare. It is ok to get homesick, maybe it is even part of the experience, but reflect carefully if you can cope with the challenge of being far away from home. If you are being offered support, please honour it and say thank you - I know of colleagues who paid bonds for accommodation and were left to clean up afterwards or even lose personal

money. Such experience will reduce the willingness to help out again. I have also experienced incredibly generous offers of accommodation, pick-ups, sightseeing or hosting professors and team members at their homes. These are humbling experiences in a scientific community, foster great openness to cultural exchange and ought to inspire that we all give back, maybe elsewhere to other people.

Experiencing and managing different cultures is one of the greatest challenges in our world. No supervisor can know and accommodate every cultural particularity. This leads to unintentional misunderstandings, sometimes human beings are really afraid of the unknown or different other. This can lead to discrimination as people stick with what they are familiar with. There is a saying 'When in Rome do as the Romans do' but it is not so simple as cultural differences are merged with personality, character and even religion. In my experience open dialogue is key and a nice introduction can be the work of Erin Meyer 'The culture map'. Of course, this is stereotyping to some extent, but it also reveals that differences are real and we all have our personal conditioning that can fuel misunderstanding and conflicts, especially when ignored. It is probably the most important benefit of mobility to extend one's life view and develop an enhanced openness.

IAMT is a very international environment and all team members are mobile at various stages of their careers. The process is always the same: After initial contact, an application with the proposal is required, if deemed suitable an interview takes place and if there is a good match of project and person, then strong support is provided to apply for various scholarships or fellowships. Sometimes initial funding can be provided although these possibilities are naturally limited. Dual career and family issues can be discussed openly, sometimes local hosts have good connections and are able to help find solutions and enable a given possibility.

References

1. https://en.wikipedia.org/wiki/Academic_mobility (accessed 16 Nov 2024)
2. Erin Meyer (2014) The culture map: breaking through the invisible boundaries of global business, ISBN 978-1-61039-250-1