

RADIOBIOLOGY

Obtaining an ESTRO mobility grant: from application to execution

PhD candidate at:
Department of Precision Medicine
Maastricht University, The Netherlands

Visit to:
Department of Translational Radiation Oncology
Heidelberg, Germany

Twice a year, the European Society for Radiotherapy and Oncology (ESTRO) offers the chance to apply for a mobility grant, also known as a technology transfer grant (TTG). Short study visits of up to three weeks per year to centres of excellence within or outside Europe are funded. I applied in autumn 2018, and was fortunate to be a grant recipient.

Finding and applying for funding

You can find funding for various projects at many levels, from a Europe-wide grant to funding that is raised through local sponsors. When you are in a research position, regardless of the level, it is important to investigate funding opportunities and take advantage of them. Be aware that working in research does not only constitute conducting research. Applying for funding at the beginning of your career gives you very useful practice in grant writing. It also teaches you how to 'pitch' yourself to the public and develop your personal skills. Ask your colleagues whether they are aware of funding opportunities, pay attention to funding announcements made by your university, and, most importantly, make time in your schedule to browse the Internet for suitable funding.

Our department's foundation is radiotherapy. Therefore, I attended an ESTRO conference, which led to membership of ESTRO and increased my awareness of the Society. While searching for a travel grant to visit an external institute in order to collaborate, I came across the mobility grant from ESTRO. In this specific case, I wanted to obtain a travel grant so that my department would not need to pay for my travel and I could prove to myself and my supervisors that I could successfully apply for such grants. The application procedure was not complicated. I needed to supply the approval of the external institute and my own institute for the trip, and a research plan and CV. It is important to have a solid research idea that you wish to pursue during the trip and that you have discussed with all participating partners, and to stress the importance of your visit to the external institute. For my project, and the specific research question that I aimed to answer during my visit, particle irradiation is crucial. The destination I wished to visit specialised in such irradiation, clearly indicating the relevance of my visit.

Fortunately, I enjoy writing concise texts, so the composition of the document did not consume a lot of time. I began the process long before the deadline for application, so my supervisors had enough time to comment on the document and obtain approval from the receiving lab. Within two months, I received the acceptance email, which then enabled me to plan my visit.

Collaborative project

My PhD research position is in tumour immunology in the Department of Precision Medicine at the University of Maastricht. In my project, I am attempting to find the ideal treatment to prime and stimulate the immune system to target cancer cells. Currently, we are investigating a promising treatment regimen that is moving towards a Phase 2 clinical trial (ImmunoSABR, NCT03705403), in which X-ray radiotherapy is combined with a tumour-specific immunocytokine. Particle therapy is becoming increasingly available in hospitals across Europe. Therefore, our group is very interested to see whether particle radiation can enhance immunogenicity and reduce the toxic effects on normal tissue. Particle radiotherapy such as proton or carbon-ion radiation is assumed to deposit all its energy at a specific site of interest (according to the Bragg peak principle). We hypothesise that high linear energy transfer carbon (high LET C-12) radiation is more immunogenic than photon radiation, and that its use therefore could lead to an increased therapeutic efficacy upon combination with immunotherapy. There are only a small number of centres in the world that offer carbon-ion radiation possibilities. The centre in Heidelberg is close to Maastricht. In our department, collaboration is highly valued. One of our postdocs established initial contact by reaching out to Prof. A. Abdollahi, head of the Translation Radiation Oncology lab in Heidelberg. After an introductory Skype call with Prof. Abdollahi, I took responsibility for planning the experiment with him and other members of his lab.

The visit and the importance of communication

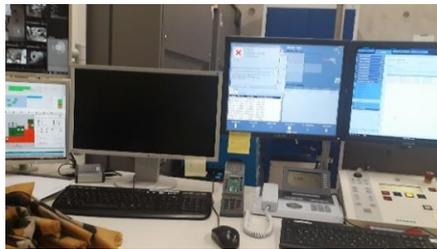
I was informed that Heidelberg University (DKFZ) could offer accommodation, and this proved easy to arrange. Since Heidelberg was near, I could travel by train to reach my guesthouse within half a day. Apart from arrangements

you can make yourself such as housing, I would like to emphasise the importance of communication with the department you will visit. Discuss the exact experimental plan with your own team and the team you are visiting, to save time and misunderstandings so that the visit can be optimised. The TTG supports a visit of up to three weeks. Keep this in mind with respect to the feasibility of your research plan. Discuss to what extent you need or can receive assistance with the work, and what materials are available on site and what you would have to bring. You cannot be prepared enough!

Legislation is not only different in other labs but also in other countries. I performed in vivo and in vitro experiments in the lab that I was visiting, and it was great to have knowledgeable people who could inform me regarding the in vivo requirements in Germany. During my visit I could not only make use of a technique that would otherwise not be available to me, but I also learned much more about particle radiotherapy than the knowledge I could glean from a textbook.



I spent a lot of time seeding cells and taking care of them.



Hands-on experience regarding the operation of the panels during irradiation with carbon RT.



I was happy to get some sun on the way home from the institute!

Apart from the practical skills, I learned how to facilitate a consensus between labs on the execution of experiments that were initially perceived differently in each place. I became more strongly aware of the importance of planning every detail and clear communication with the receiving lab. That way everyone is on the same page. During a visit, you want to cram as much work as possible into the time you have. However, since the lab being visited is not the same as your own lab, the experience is more intense and therefore the workload should not be underestimated. It is helpful to have a helper appointed to you, because this facilitates asking questions and integration into the lab.

I believe the collaboration in our case has been satisfactory for both parties, because it will continue in order to finish the project. It was enjoyable for me to be in a foreign environment. Normal life stops for a while because, for example, you cannot go to the gym or see your friends. However, it is nice to step out of your comfort zone for a little while. This experience gave me the opportunity to view my life and work in Maastricht objectively.

Concluding remarks

I would recommend an external visit. In my case, it enabled me to experience a different scientific environment from my own lab, extend my network, and return with data I otherwise would not have been able to obtain. It also builds character, and I enjoyed Heidelberg. I strongly believe that collaborations strengthen the scientific quality of research and enhance expertise in our community. It is wonderful that ESTRO offers this opportunity and understands the importance of knowledge exchange. Through this process, ESTRO also helps to stimulate individual development in terms of research experience and extending a resume. I can only conclude by saying, be enthusiastic, apply for a TTG and go out there!



Damiëne Marcus

PhD student in tumour radiation/immunology/hypoxia

Department of Precision Medicine/M-lab, Maastricht University

Maastricht, the Netherlands

E-mail: d.marcus@maastrichtuniversity.nl

