

Final report

Internship abroad

Personal data and general information on the internship

Subject of studies: MSc Physics with a Specialization in Medical Physics

Bachelor/Master/State exam: Master

Time of internship: 15.08.2025 – 12.12.2025

Place of internship: Valencia, Spain

Internship institution: Instituto de Fisica Corpuscular

Guidelines:

- The report should have a length of at least **4 DIN A4 pages** (Times New Roman, 12pt, 1.5 line spacing)
- If you want to give names, please do not give the full name of the person. Use only the first name or abbreviations such as "L."
- When integrating photos, please note that your report requires the consent of the person(s) photographed when published and distributed.
- Please save your report as a word document (max. file size: 8 MB) and upload it to MoveON.
- If you are looking for a little inspiration for your own report or would like to compare your experiences with those of other students, please feel free to have a look at our [website](#).

You may structure your report as follows:

1. Planning and preparation (e.g. application process, finding accommodation, language course)
2. Internship (tasks, typical workday, workload)
3. Social contacts
4. Everyday life and leisure
5. Financing (cost of living, shopping tips)
6. Internship and studies (Were you able to apply what you learned during your studies, How has the internship changed your motivation to study and/or your attitude towards your future profession)
7. Conclusion (were your expectations met, challenges, particularly defining experiences, tips for future interns)

1. Planning and preparation

My project at the Instituto de Fisica Corpuscular in Valencia, Spain, was a natural continuation of the previous Erasmus+ traineeship I did there previously. In that sense, many of the planning and preparation stages were already done at the level of the previous project: I had already chosen Spain as my Erasmus destination due to the very high quality of life, the liberal politics, the open-minded society, and last but not least – the current rapidly expanding field of medical physics in the country with the building of 10 new proton treatment centers; I had chosen my traineeship institution on the basis of their similar research projects as my home research group in Munich, and the common wish of the two institutions to collaborate through my project; I had already found accommodation in a shared flat in the city center of Valencia through the *idealista* platform that is vaguely similar to *wg-gesucht* and remained on my previous rent of 470 euros/month with 50 euros/month of bills included. (I later discovered that cheaper options exist and it might be worth staying in a quieter part of the city); Finally, I had already dealt with a huge load of administrative tasks, including the issue of an Empadronamiento (city hall registration), green NIE (temporary residence permit that contains the very useful NIE number), the purchase of a prepaid SIM card, the public transport card Mobilis30, and the admin at my host institution, including a university sports card. If you need more detail about those seemingly easy, yet surprisingly painful procedures, please refer to my previous report.

As many new Erasmus students arrived in September, I heard that an easier way to get a Mobilis30 card is by first getting a Spanish Youth Card instead of going through the green NIE procedure. New students might wish to try out this option, as well.

2. Internship and studies

My ongoing project at the Instituto de Fisica Corpuscular is focused on the characterization of a high-energy gamma detector for medical imaging applications. My results are intended to be useful for the PET modality of the broader SIRMIO project, where cancer cells in mice are targeted with a proton beam. The results of this pre-clinical research can then be interpreted for human patients. In the previous part of the project, I created a workflow by combining experimental setup knowledge from both the research groups in Valencia and in Munich.

In this part of the project, I aimed to use this ready setup to evaluate the detector at hand via its relevant physical properties and learn more about them. The organization of the project is pretty mixed, in the sense that I receive guidance from both my supervisor in

Munich and the one in Valencia. What I found challenging at first, but probably positive for my scientific development, in the end, was combining the two flows of ideas that do not always agree completely. I do think now that it is a very valuable skill to translate the sea of semi-correlated ideas into a list of tasks with respective timespans, which I mostly did myself. I met my local supervisors on a weekly basis, or even more often if that was needed for the project, while the communication with my Munich supervisors was held virtually.

A high point in the project was my mid-project examination, as required by the LMU department of Physics, in which I described the development of my project and was asked various questions from the field of detector science and medical physics. I was happy to hear that the groups involved were satisfied with both me and my project, and we could finalize the date for my master's thesis submission in April 2026. This examination was also the only examination in this semester, and I enjoyed being finally free of written exams for the first time in my university life.

While that is very positive news for my education, it also brings the job search question a further step closer. I dedicated quite a bit of my free time into research into the job market and learned more about the British Clinical Scientist Training Programme, which is still accessible to me via my previous emigration status in the UK. The National Health Service in the country offers the opportunity to people with a degree in clinically relevant sciences, such as medical physics, to apply for a traineeship position for a duration of three years. The initial pay scale is good enough for the UK, especially outside London, however, trainees in London do get an extra supplement. My personal opinion is that London is the most exciting and international place to live in the UK where one does not feel suffocated by any culture or the other, however, must be mentally prepared for extremely high living costs and very long commute times. The departure of the UK from the EU is also a tricky subject as the legal framework of the EU that protects workers' rights seem to be at risk there. I discovered that many employees admit to signing clauses in their contracts, in which they opt out of the "only" 48-hour weekly working time, and further claim to have a "situationship" with their workplaces. The programme application window is supposed to open in January 2026 and the selection process takes about six months until the summer of 2026 to be finalized.

I also invested a bit of my time into researching the Spanish medical physics jobs market and learned that the clinical career path follows a strict, complicated and centralized bureaucratic procedure, as apparently many jobs in Spain do. As of now I don't think that is very feasible for me to follow that procedure: It involves an exam on many arbitrary questions from all parts of physics – including astronomy – which the Spanish legislators

somehow deem relevant for clinical medical physics. I still wish to measure a patient's lesion in lightyears. After the exam trainees are sent around the country for 3 years, and after the end of the traineeship, they have to look for a job around the country once again. Even if I do learn Spanish to a sufficient extent and learn everything about astronomical units and Bohr's radii, I still would not like to have to move twice. On the other hand, as mentioned previously, Spain is now building 10 new proton centers with experts from international companies. This is believed to open a lot of new positions for people with similar background to mine and offer a well-paid job in an English-speaking environment. In that sense, I think that my presence in Spain and connection to local research groups might prove advantageous and help me with applying to one of those positions. I am also happy to have studied proton therapy extensively at the LMU in Munich.

3. Social contacts, everyday life and leisure

With the arrival of many new Erasmus students in Valencia, I joined multiple Whatsapp groups with many people. I noticed that social groups form quickly at the beginning of the semester so it might be helpful to be proactive at that time. Unfortunately, I was quite busy with my project and didn't have time to follow closely the social dynamics. Nevertheless, I feel like a part of the broader and more open community and have met some very nice people. Many people plan trips, renting cars and traveling around the country, which I recommend if you have the time. I was also surprised to find out that my most successful social interactions were with Germans, including my new colleague from Mecklenburg-Vorpommern, due to our common understanding of time and responsibility. On the other hand, I have learned from the locals to be more relaxed, respect my feelings more, and be more open to what life offers on the spot outside of my tightly planned schedule. I also learned how to be both respectful to others and self-confident at the same time, which I think should be the basis of good social skills.

In late September I travelled to Galicia with some friends and colleagues and was very surprised to find how different the different parts of Spain can be while we traversed the peninsula on a train. We enjoyed the tasty Galician food – with its local specialty of grilled octopus, and local wines; slept on a yacht in the harbor of A Coruna and visited the famous cathedral in Santiago de Compostela, which marks the end of the Camino de Santiago. The overall architecture and experience reminded me very much of my years in the UK, and I thought that Galicia feels like a strange mix of England and Spain. Recommended!

Back in Valencia, I joined a circuit training class and a windsurf class with the university sports card and found that the people in those classes were very friendly even if you speak the most basic Spanish to them. I managed to attend several windsurf classes and enjoyed them, however for the most part, they were cancelled without prior notice.

I also joined a Spanish A1 class which has taken me, albeit with baby steps, into the language. Despite basic, the knowledge of the language I've acquired has helped me greatly with my everyday life. The class was very international, and I met a lot of people there with whom I wish to deepen my friendship. I must note, however, that the communication with the administration of the Language Center of the University of Valencia was yet another instance of organizational chaos and disappointment. Over the course of more than 10 emails over three months, the course representative wasn't able to answer my question whether or not Erasmus trainees at institutes related to the University of Valencia, such as the Instituto de Fisica Corpuscular, are entitled to the discounted course price. After paying the discounted course price, two months later, and less than a week before the course beginning, the same lady remembered to request the full amount, and not say anything about the 192 euros I had already paid. I replied quoting several of her statements and refused to pay anything extra. She hasn't spoken to me ever since, and so far, this has worked beautifully.

4. Financing

My finance was provided through the Erasmus funding, the additional funding for the support of equal opportunities, and further supported by my parents. I am not entitled to Auslandsbafög, but it is also worth considering for German citizens (or EU-citizens with a 12h-weekly work contract). As with my previous report, I recommend assigning a budget similar to the one students have in Munich, excluding accommodation. Supermarkets cost the same, if not a bit more expensive than the German ones, and the culture involves a lot more restaurant- and bar- going than the German one. The restaurants and bars are about 1/3 cheaper than the German ones, yet the frequent visits add up.

5. Conclusion

In this second part of my project in Valencia I felt more settled and aware of my surroundings. I could use the time to advance my studies and my project and learn meaningful things about my field of study, that is medical physics. I had the time to explore the job opportunities in front of me and start thinking about the end of my master's studies. I also

managed to take some glimpses into the typical Erasmus experience that many people have in Valencia. I improved my social skills and also made my first steps in the Spanish language which is an absolute necessity if one wants to have any sort of normal life in Spain. My project goes on, and I wish to conclude it with a nice and meaningful master's thesis submission and enjoy my free time with more people and trips and less with job research, as life should offer us the opportunity to do both at the same time. That is yet another valuable lesson that I have learned over the course of this traineeship. We continue...

I'm grateful for the Erasmus funding that gave me the opportunity to collect all of these experiences and grow as a scientist and as a person.