

## Final report – Erasmus+ Traineeship at Estación Experimental de Zonas Áridas

I began my traineeship at the Estación Experimental de Zonas Áridas (EEZA) in Almería, Spain, on the 1st of October 2024. My goal was to gain practical experience both in the lab and in the field, to complement my academic training as an ecologist. I ended up with much more than what I had hoped for.

The research center, located within the University of Almería campus, offers a stimulating and pleasant working environment, with a lot of scientists involved and developing different projects on diverse ecological topics. I worked with the functional ecology group. The team is great. ----- the main researcher, is a dynamic and experienced scientist, clearly passionate about his work. ----- and ----- the technicians who followed me closely in the lab, were really supportive and trustworthy. With them, I felt free to develop my own ideas, ask questions, and learn at my own pace. ----- and ----- the two postdoc of the team, were also super helpful.

At my arrival, I was introduced to most of the staff of the center. Everyone, from the technicians to the administration to the researchers themselves, is really nice and willing to help. During the first week I was shown around the laboratories, receiving an initial orientation on safety protocols and laboratory conduct. Moreover, I was asked to attend an online course about safety and risk assessment in the field. This took only a few days and it was a good introduction to the fieldwork.

From the very beginning, I felt welcomed and supported. I was fortunate to share the first part of my experience with another Erasmus student, which made everything easier and funnier to go through. We were both assigned a large desk in an office shared with another Erasmus intern already at the center. This comfortable, dedicated space allowed us to focus on our work and contributed significantly to a positive daily routine. The EEZA hosts a consistent flow of Erasmus students, which creates a vibrant and friendly community.

My first task was helping Alejandro, one of the technicians, with soil sample analysis. At first, I felt a bit insecure in the lab, but I got good mentoring and by the end of the first month, I was working independently and starting to feel confident. I was mostly handling soil samples and measuring enzymatic activity using spectrophotometry. I learned to use pipettes, an agitating bath, a centrifuge, and the spectrophotometer. I also spent a lot of time weighting soil for the analysis: if you love science you must love also the boring and repetitive aspects of the data generation process! It was really interesting to follow a full protocol and actually understand the mechanisms behind it.

In the second month, we went on a five-day field trip around Andalucía, the region in the south of Spain where Almería is located. We visited forests of pines and oaks, sampling soil under the trees, measuring photosynthetic activity on the leaves using the PAM fluorometer, and collecting soil and leaves for DNA and trait analysis. The trip was amazing — I learned a lot, not just about ecology, how to collect and store samples, but also about team dynamics and organization. Those soft skills are essential in any workplace. All travel and accommodation expenses were covered by the project.

After those two months, I decided to extend my stay — I felt like I was in the right place, and that staying longer would allow me to learn more. I was given more responsibility and, with the help of ----- the main technician of the team, we ran a manipulative experiment in the lab, dealing with seeds and seedlings of oaks and pines. I learned about sterilization processes, how to make soil extracts, and how to plan and run an experiment. But more importantly, I learned that things don't always go as planned — and that it's essential to be flexible, make decisions, and find new solutions. I also realized how much responsibility it

takes to take care of samples and how key the role of technicians is in research. I discovered I really enjoy that role too. Moreover, working with \_\_\_\_\_ has always been more than a pleasure: his kindness, intelligence and humility makes him a great mentor and lab technician.

Before Christmas, the center hosted a public event where people working at EEZA could present their research or projects. I had the chance to present my Master's thesis topic, which was still a work in progress. It was exciting to speak in front of a big audience with a microphone, and to realize I wasn't as nervous as I thought I'd be. It was also a great opportunity to listen to experienced researchers and feel — for the first time during my Master's — that I was part of a scientific community.

After the holidays, I got to organize a whole round of soil analyses using the techniques I'd practiced earlier in the internship. I also learned how to measure soil pH, humidity and organic matter content. I extracted DNA from soil samples, and quantified it using NanoDrop and Qubit. Along with the other Erasmus student, we also got a detailed explanation of how qPCR works — a technique I'll certainly use again if I stay in this field.

From my Learning Agreement, I was expected to present a report of the main work carried out during the internship in order to obtain 12 ETCS. I wrote a protocol about the phosphatase enzymatic activity in different soils, summarizing the work done and showing some results. -----my main supervisor, took time to read and gave me feedback on the document, so that I had no problem to handle it to my professor in Germany and easily got the credits for the work.

In the last few months, I did more fieldwork, attended lots of seminars, and got to know a new Erasmus student joining the team. She helped me during the lab work, and it was a great experience to find myself able to explain protocols and share what I'd learned.

Working hours were flexible and the environment was never stressful. The more interested you were, the more you got involved — and I liked that a lot.

Another thing worth mentioning is the efficiency of the admin side. Francisco and the administration team were always fast to respond and really helpful with any kind of paperwork, right from the beginning.

My Spanish was already good when I arrived in Almería, and it improved further during my stay. I believe speaking the language helped me integrate more deeply with the team and participate in the center's activities. While it's entirely possible to complete the internship in English — as almost everyone speaks it — I would recommend learning a bit of Spanish to anyone considering it. That said, life in Almería is well-suited for Erasmus students: the community of international students is big and welcoming. So, no need to learn the language to have good time. But still . . .

I'm leaving this internship with solid lab and field skills, improved communication and teamwork abilities, and a lot more self-awareness. Spending these months at EEZA was crucial for me — not just as a future scientist, but as a person.

On top of all that, I was offered a job by -----, and I'll be joining the team until the end of the current project. It felt like a huge honor to be asked — I'm really passionate about the work, and this is a great opportunity for me.

I know it's important to mention downsides too, but I really can't think of any major issues. I truly believe the internship offered by ----- and his team is a great opportunity for any ecology student, especially those interested in plants and soils.

My stay in Almería changed me in many ways. I believe the most important thing I gained is confidence — in myself, in my skills, and in the path I've chosen. I got a clearer picture of what ecological research looks like in practice, and I got to apply my knowledge by *doing*, which, in my opinion, is the best way to learn.

Almería, 29<sup>th</sup> of May 2025