

Get to know the corrosion fighters

They have told us their story, how will yours be?

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ESTER LOPEZ MARTINEZ

Winner of EFC Young Scientist Grant 2023

Could you give us a little presentation of yours?

I am a second-year Ph.D. student at Complutense University of Madrid. I graduated in materials engineering and subsequently completed a master's degree in chemical science. Currently, I am a member of the Materials Preparation and Degradation Group under the leadership of Dr. Raúl Arrabal Durán.



What do your studies consist of?

My thesis focuses on the study of multilayer systems for the protection of aluminium and magnesium alloys.

What do you like the most about your activities?

The experimental part goes without saying, but another moment that I genuinely appreciate is when, after analyzing the data extracted from experiments and reading the literature, everything you've done starts to come together. You begin to uncover patterns in things you had no previous knowledge of, and it's one of the most satisfying feelings.

Is there something you don't like?

Job insecurity, malfunctioning laboratory equipment, and the task of cleaning glassware—perhaps the first isn't directly comparable to the other two, but it is undoubtedly the most significant concern.

How did you get here? How did you discover this world?

We had a subject in the third year of our degree called 'Integrated Laboratory' where we began to really understand corrosion and metallurgy, although the subject was demanding I remember it as one of the best of the degree, so I decided to talk to Raúl to collaborate with his group and learn more about this subject.

If you didn't dedicate yourself to this field, what would you have liked to be?

Many things interest me, from becoming a doctor or chef to studying physics, biomedicine, biochemistry, philosophy, and Spanish philology. There are just so many captivating fields to explore

Where do you see yourself in the future?

I would like to have the opportunity to stay in several laboratories and acquire as much knowledge as possible in each of them, preferably in specialized fields complementary to my own. In the long term, my goal is to return to Spain and engage in university research.

Do you think networking will be important to get there?

Absolutely, the public often envisions scientists as solitary individuals immersed in experiments and lab notebooks. However, collaboration and networking are essential for the advancement of science. Working together, sharing knowledge, and building on each other's research are fundamental aspects of scientific progress.

Do you think your field of studies needs more visibility?

Indeed, it's not just corrosion but also materials science in general that can be quite misunderstood. Most people would struggle to define the role of a materials engineer, let alone a corrosion specialist.

In your opinion, what is the single most valuable attribute is researcher should have?

Being eager to work. Almost all of us enjoy the experimental aspects, and even reading papers is intriguing to understand what other people are doing. However, in the end, you must sit down and engage in the actual work—analyzing data, writing, reading, critical thinking, creating figures, managing bureaucratic tasks, drafting proposals, and applying for grants. It's a multifaceted process that can indeed be overwhelming, but perseverance is key to overcoming it.

What advice would you give to students in an early stage of their careers?

I'm still in the early stage of my career, and I don't think I can give much advice. However, eating well, getting enough sleep, staying hydrated, and prioritizing your mental health are essential. It may sound simple but balancing these while pursuing a Ph.D. can be quite challenging.

Could you say how you see the future of engineers/corrosion scientists?

Considering that corrosion problems tend to increase as a society becomes more technologically advanced, I believe we'll be needed in the foreseeable future—unless, of course, climate change kills us all.

Corrosionist... is it born or made?

Totally made.

TO END... COULD YOU TELL US...

• A color: Green

• A number: 4

A song: Antes que no (David Bisbal)

A hobby: Judo and cinema

A city: Cádiz (Andalucia)