Get to know the corrosion fighters

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

RACHMA AZIHARI

Winner of the EFC Prize
The Best Oral Presentation

Could you give us a little presentation of yours?

I am Rachma, a sportsperson who like outdoors activities but is currently working in microscope dark rooms for my 3rd year of PhD. After my engineering master degree, I decided to go further and do a PhD because I wanted to research in materials sciences. I chose the materials fields because it is linked to almost all the other scientific fields. So in the future, I could change the area of my research subject like I try a new sport every year but still work on materials.

What do your studies consist of?

The aim of my research is to determine the stress at failure of grain boundaries in oxidized austenitic stainless steels in Pressurized Water Reactor. To do so, I am combining micro-mechanical tests with Finite Element simulations to extract the information at a local scale.

What is its relation with nuclear corrosion?

Nuclear corrosion is the core of my research. The material I am currently studying (304L steel) is located in the primary water near to the core reactor where the steel undergo severe conditions which can lead to degradation.

What do you like the most about nuclear corrosion?

It is the most complex issue I have ever study. The interaction between all the parameters (materials, environment, irradiation...) can lead to so many outcomes; it is like there is always a new subject to study every day! It is scientifically and intellectually very stimulating. However, sometimes the complexity can lead to some frustration because there is always something we do not know/understand.

How did you get here? How did you discover this world?
One of my teachers sent an email presenting my current PhD subject. I knew I wanted to do a PhD in the material field, especially related to the energy industry. As I am someone who loves to experiment, set up things and learn something new, this subject really appealed to me. Then during my bibliography review, I discovered the Nuclear Corrosion world.

If you didn't dedicate yourself to study this field, what would you have liked to do?
I love baking so maybe I would have been a baker. It is just another kind of experimentation!

Where do you see yourself in the future?
I would like to work as a researcher in the energy industry. I really enjoy working on practical issues very close to civil society needs. I think innovation in energy production/storage is one of the big challenges scientists face at the moment.

Do you think networking will be important to get there?
I think networking is important no matter what your job or field is. Moreover, it is always great to meet people and exchange.

Do you think the nuclear corrosion field needs more visibility?
If we advertise it to civil society, people might panic! More seriously, during my studies in materials engineering, I only heard about it once. It feels like you have to work in the field to know about its existence so yes I think it needs more visibility in the scientists' community.

In your opinion, what is the single most valuable attribute is researcher should have?
Patience. Things can go very slowly but we cannot go faster than physics.

What advice would you give to students in an early stage of their careers?
I am in the early stage of my career but if there is one thing I can say is to persevere.

Could you say what it is and how you see the future of engineers/corrosion scientists?
As long as we will use metals in industries or in everyday life on this Earth, we will need corrosion scientists. So I do not worry about our future.

Corrosionist... is it born or made?
Definitively made!

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

- **A color**: Green
- **A number:** 5
- **A song**: Survival (Muse)
- **A hobby**: Hiking
- **A city**: Toulouse