



Get to know the corrosion fighters

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

→ JOHANNA-MARIA
FRENCK

Winner of the Best oral Presentation at Eurocorr 2023

Could you give us a little presentation of yours?

My name is Johanna Frenck. I am a fourth-year doctoral student in the Department of Mechanical Engineering at the University of Kassel. I completed my Bachelor's and Master's degrees in the Department of Civil Engineering. But at the end of my studies, I decided to broaden my academic horizon and conducted the research for my Master's thesis at the Institute of Materials Engineering in the Department of Mechanical Engineering. Since the failure of civil engineering structures due to corrosion damage is a potentially fatal problem, investigating the corrosion mechanisms of metallic materials was the perfect crossover between my previous studies and a new area of research.



What do your studies consist of?

The research topic of my dissertation focuses on the corrosion properties and failure mechanisms of iron-based shape memory alloys.

How did you get here? What motivated you to do this ?

My father was a scientist who was always very passionate about his work and my grandfather was working as a civil engineer for most of his life. So I guess my family had a huge influence on my interest in science and technology very early on in my life. My father in particular has always motivated me to keep on learning about new things and not be afraid of new experiences. Then when I met Prof. Niendorf, the supervisor of my PhD thesis, during my master's program, I kind of had no choice but to change departments for my master thesis, because he has a way of talking about his research that makes it really hard not to be interested and wanting to learn more about it. He has so much motivation and enthusiasm for his research. That is very inspiring.

What do you like the most about your activities?

There is so much to love about research activities! You get to learn about so many new things all day long, can connect with people all around the world and by the way get to improve your English skills. Of course, one has to tackle a lot of challenges on the way as well, but being rewarded by the sense of achievement you get, when you are finally able to understand and explain your research data, makes it all worth it.

Is there something you don't like?

Sometimes working as a researcher can be a bit solitary.

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

I would have and still would very much like to have my own bookshop. Maybe now with a whole section dedicated to corrosion?

Do you think your field of studies needs more visibility?

In the field of mechanical and civil engineering, corrosion research tends to be more of an undesirable side topic. However, since corrosion damage can have catastrophic consequences in both civil and mechanical engineering, this field of research needs to be given more attention. Maybe someday, I will be able to inspire young scientists to consider this field of research with more interest, just as I have been inspired by the different people along my way.

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

Curiosity and endurance.

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

Don't be discouraged, no matter how big the setbacks may be at the beginning of your research career. We all experience them. Experiments often don't go the way we want them to in the beginning. Just keep trying and I promise with the experience you gain on the way, it will get better.

Corrosionist... is it born or made?

Definitely made.

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

- *A color: Blue*
- *A number: 8044*
- *A song: like my father*
- *A hobby: Reading*
- *A city: San Francisco*