



Interview with **Marta BOJARSKA**

Postdoc researcher at the University of Duisburg-Essen

Germany



I came to work in XERIC from Poland. My field of study actually has been changing a little bit over the years. I started with my master degree at Warsaw University of Technology (WUT) in Industrial Biotechnology. The topic of my thesis was related to membrane gas separation; I was focusing on hydrogen separation from after-fermentation gases. Then, I defended my PhD at the Faculty of Chemical and Process Engineering, WUT. In this work I focused on surface modification of commercial membranes.



... And now I am doing my postdoc training at the University of Duisburg Essen (UDE), Faculty of Chemistry. As you can see I have been changing the faculties with every step, but I have been faithful to membranes from the very beginning.

You told me that PhDs in Poland take longer than the average 3 years. Can you briefly explain why? What additional experience did this extra time give you?

Yes, apart from our work focusing on the thesis, we are obliged to have classes with students and attend specialized courses. Apart from this, we work in projects that are not always part of our PhD thesis. For example I was working in three different projects and at the end of my PhD I started to work in small company in R&D section. For sure this extra time gives us an additional experience both in research as well as in teaching. Also during that time I had a chance to cooperate with industry and see their approach to problems and science, I was very fortunate during my PhD studies, because I had many opportunities to develop as a researcher.

What is your postdoc project about? What objectives do you have to reach to contribute to the XERIC project?

I, along with the rest of the UDE team involved in XERIC, am trying to obtain a lab scale membrane prototype. Basically,

we are focusing on a phase separation method and its aspects for membrane formation. The membranes obtained will work in XERIC's 3FCMC in order to reduce at least 50% of energy used for passenger comfort in electric vehicles. In my opinion the most challenging part of this task is yet to come. It is up-scaling and transfer of membrane production from University to Industry. UDE along with GVS Filter Technology will be closely collaborating in order to achieve this goal within XERIC's 3-year duration.

What is the best thing about undertaking a postdoc? How challenging is it?

Postdoc training gave me a great opportunity to work with Professor Mathias Ulbricht and his group. Also thanks to this project every day I am learning something new and I have an opportunity to cooperate with people from different fields. This is very eye-opening and an illuminating experience. The project and the postdoc give me an opportunity to see how a European Project is structured and how many different aspects it covers; now I know what are the requirements, obligations, responsibilities but also possibilities related with this kind of a project.

You participated in the "European Young Engineers Conference" in Poland in April. This conference brought together an audience of about 90 persons. Your talk was entitled "Membranes in automotive climate control systems". Was it a profitable experience? What did you learn there?

The European Young Engineers Conference is a conference organized by students for students and PhD candidates. This year I was honored and invited as a speaker. Every year they are trying to invite some "fresh" PhD to show others what people can do after the defense. This conference gave me an opportunity to show younger colleagues what my work is about and how does the European Project works. It was a good experience to talk with students involved with research and see their point of view on different topics.

You applied to the LIDER Programme last year and you were one of the lucky – and hard-working- researchers who got funded! This ~300,000 euros grant is meant to help young scientists learn how to plan research on their own, manage and lead their own research team while carrying out projects likely to be implemented on the market. So you're a team leader in Poland. What is your team working on? What are your impressions on managing a group of persons?

Yes, the LIDER project is dedicated to researchers under 35 years of age and last year there was really great competition. Me and my team are working on polypropylene filters modification. We are modifying filters with aerogels in order to enhance water/oil and air/oil separation.



Already when I was writing a proposal I had an entire team ready, also we have started to talk with one of the Polish companies that is interested in our idea. Managing a group of persons is not an easy task, but I am a lucky team leader. My team consists of very good specialists and some very promising young researchers. Also we all know and like each other, which helps a great deal.

On a more general note, what is appealing to you in being a researcher?

When you are a scientist you work all the time, not only in office or laboratory but also during morning teeth brushing or car ride (in my case tram); you think how to solve problems or why doesn't it work the way I want it to work. Science is challenging but also very rewarding. Every day there is something new to discover. Even when I am stuck with research, which happens occasionally, there is always an alternative route. And when you finally are able to solve a problem you feel just great! Being a scientist/researcher gives me a little bit of freedom for working out creative ideas.

**Thanks for answering my questions
Marta and all the best for your projects!**

UDE, a partner in the XERIC project

Universität Duisburg-Essen (UDE) offers a broad spectrum of fields, with a strong focus on sciences, engineering and medicine. The "Technische Chemie II" Chair (TCII) has a key position within research and teaching in UDE's Chemistry Department. Research carried out by Prof. Ulbricht's group is devoted to functional polymeric materials with a focus on separation membranes and particular emphasis on applications in water purification and related processes. Core competences of his group include development of polymer-based membranes or surface modifications with various functionalities such as hydrophilic or hydrophobic, antifouling and molecular recognition.

XERIC in brief

XERIC is a European Research & Innovation Project

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