



European Research & Innovation Project
Innovative climate-control system to extend range of electric vehicles and improve comfort

Interview with **Clemens ALEXOWSKY**

PhD at the University of Duisburg-Essen
Germany



Clemens ALEXOWSKY

studied chemistry in Essen and did his master thesis at Evonik Industries studying additives for glass fiber reinforced polymers. Now he is a PhD student at the University of Duisburg-Essen in the working group for technical chemistry of Professor Matthias Ulbricht. As a part of the XERIC project his research is about preparation and characterization of membranes.

Can you please tell us a little bit about yourself through your career path ?

While studying chemistry, I got interested in polymer and membrane science, as it comprises abstract scientific content and links it with things from ordinary life. Also the wide field of applications in membrane science got me interested. It is common to do a PhD after studying chemistry and this working group and project suits my interests in the best way.

What is your PhD about, more precisely? What are you interested in?

My topic is directly linked to the membrane part of the XERIC project. Of course, for the project, the goal is to have the best membrane that could be produced. For the PhD it is also very important to investigate the possible processes and explain why certain membranes are achieved under certain circumstances.

Membrane science is really interesting, as you can find membranes for example in biology (cell tissue), water proof textiles and batteries. More specific, the preparation and characterization of membranes is a crossover of chemistry, physical chemistry and engineering. This makes it necessary to think outside the box and learn about new interesting things besides chemistry.

What excites you in the XERIC project ?

The project offers me to work for a very current topic, electric cars and comprises it



with the working field of membrane science. Also the input from different backgrounds (chemistry, engineering as well as industry, university) excites me. It is really interesting to see not only how something gets better with the input of science, but also how (in this case) a climate control system is built up from the basis with an alternative idea to reach the goal.

Each part of the project is ambitious itself. I think the biggest challenge is to combine all parts to one working unit, as the project will only be successful if every single part reaches its goal.

You attended the 5th progress meeting in Monaco on 10 April, followed by the 2nd workshop organized in the frame of the EVER forum in Monaco. What will you remember the most from this meeting ?

The project meeting in Monaco showed me that in a short time (less than two years) partners from different backgrounds grew together and work as a unit. The workshop underlined, in my point of view, the meaningfulness of interdisciplinary work. It is enriching to see how all the different fields of science use various techniques to work on the same problem.

What are your plans after your PhD ?

My contract ends in May 2018. Of course, I try to keep the time gap between the end of the contract and the defence as short as possible. My follow-up plan is, not so surprising, to find a job. I am quite open what it will be in detail.

Thanks for your time Clemens, and all the best for your projects !



UDE, a partner in the XERIC project

Universität Duisburg-Essen 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.

With advanced methods for membrane formation and characterization, the group makes essential contributions to reach XERIC's objectives. The work of UDE focuses on the development of advanced hydrophobic membranes to improve membrane contractor performance.

XERIC in brief

XERIC is a European Research & Innovation Project

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31st May 2018

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Coordinator:
Dr. Eng. S. GAETA
GVS spa
Italy

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