ROMEO
REACTOR OPTIMISATION BY MEMBRANE ENHANCED OPERATION

European Research & Innovation Project
Reactor Optimisation by Membrane Enhanced Operation

Interview with **Patrick Wolf**

PhD candidate at Friedrich-Alexander University, Germany

"Being a researcher doesn't only guarantee exciting new fields of work but also the chance to work on international projects."

Hi Patrick. Can you please tell us a little bit about yourself?

I'm originally from Schweinfurt, a medium-size town about 100km northwest of Erlangen. I started my studies in life science engineering here in Erlangen in October 2009 and switched to chemical and biological engineering in 2011 because I realized, that especially chemical engineering was more appealing to me although the biological point of view was interesting as well. I finished my bachelor's degree in 2012 with a thesis in the field of a new hydrogen storage system and its applications.

During my master's I did an internship abroad with Evonik in Mobile, Alabama, USA, for 6 months which was a great experience for me. I had the chance to gain insight into applied chemical engineering as well as into a different mentality and I made some friends with who I'm still in touch till this day.

After I finished my master's in January 2015, I got the travel bug and decided to tick off one of my biggest dreams from my bucket list: leave the country with a friend to explore the myth-enshrouded homelands of the Aborigines and Māori on the other side of the world. I definitely can say that those 7 months were the best time of my life. I've seen so many mind-blowing places, met amazing people, visited great cities, did adventurous things like skydiving, bungee jumping and whitewater rafting, tasted exotic food and enjoyed the beauty of nature.

Shortly after I returned to Germany, I started my PhD at the chair of chemical reaction technology in Erlangen, which was in my mind since I attended reaction technology class during my studies.

What is your PhD project about?

In my PhD I'm working in the field of catalyst imobilization and new reactor concepts related to the water gas-shift reaction (WGSR). The goal of the WGSR is to reduce the amount of CO in off-gases of chemical reactors or biogas plants since it is a toxic compound and gain hydrogen by its conversion with

water.

Within the scope of the ROMEO project, it is my task to evaluate different materials as support structures for the catalyst-system which we want to apply in the WGSR. Furthermore, I have to implement a membrane reactor and specify its behavior under certain conditions as well as trying to make it as efficient as possible.

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

The best thing about undertaking a PhD is to think out of the box. Nearly every day you come face to face with problems or tasks, you've never worked on or seen before. So you have to devote yourself to the new tasks and work in the specific topics with the help of your colleagues which guarantees a great variation in your daily work life on one side, but can also be very challenging on the other side.

What is appealling to you in being a researcher?

Being a researcher doesn't only guarantee exciting new fields of work but also the chance to work on international projects with partners from all around the world. This opens up new possibilities to interconnect and be a small part of the think tank of the future.

What excites you in ROMEO?

Bringing reaction and separation technology together to just one unit operation is a great idea as well as a new concept. It is exciting to work in that field with so many different people from different universities and companies.

Do you have any plans after completing the PhD?

Since I'm always excited about traveling and exploring new countries, cultures and mentalities, it would be a great deal if I could do a trip for a couple of months after I finished my PhD maybe to South America or Asia. Furthermore, I hope to find a good job in the industry or to get an interesting post-doc position.

Thanks for answering my questions Patrick and all the best with your PhD!

ROMEO in brief

Funded by European Commission (Horizon 2020)

Start date:
14 September 2015

End date:
13 September 2019

Budget:
6 Million €

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H2020-EU.2.1.5
Project Reference: 680395

FAU's research group involved in ROMEO has strong expertise in homogeneous catalysis and in multiphase catalytic processes using ionic liquids.
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