

## INTERVIEW

with Tasnim Abdalla, undergraduate student of health sciences at the University of Ottawa and RISE intern at Forschungszentrum Jülich

## *“I have to find out how to get from point A to point B”*

To support young scientists at an international level, Forschungszentrum Jülich regularly participates in the RISE (Research Internship in Science and Engineering) programme of the German Academic Exchange Service (DAAD). RISE offers opportunities for students from the US, Canada, and the UK to gain research experience at German universities and research institutions. As part of their internships, students are matched with doctoral students – whom they assist and who act as mentors. Interns receive a monthly stipend to cover everyday expenses. RISE is sponsored by the German Federal Foreign Office. In 2016, 7 RISE students have been undertaking an internship at Forschungszentrum Jülich, each one lasting around three months. One of the RISE participants is Tasnim Abdalla, a 19-year old student studying health sciences and chemistry at the University of Ottawa, Canada.



Tasnim Abdalla

For your internship you applied to Heinrich-Heine-University Düsseldorf's Institute of Bioorganic Chemistry on Jülich's campus. How is your work here related to your field of studies in Canada?

**Tasnim Abdalla:** I really wanted to complete an intern-ship in the field of chemistry – that is why I came here. My major at the University of Ottawa is health sciences and chemistry is my minor, but I feel that combining these two subjects is of particular benefit – a factor which really encouraged me to apply. While health sciences uses diverse research methods to answer environmental, social, economic, and medical questions, I also liked the way in which chemistry works according to certain concrete laws: “I have to find out how to get from point A to point B”. In my first year and second year, working in general, organic and inorganic labs helped me to learn specific mechanisms of certain reactions but also adopt a generalist approach and appreciate, for example, the advantages of a one-pot synthesis as a green chemistry strategy.

I wanted to put these skills into practice alongside professors, scientists, and students at the Institute of Bioorganic Chemistry.

What kind of project are you undertaking at the Institute?

**Tasnim Abdalla:** My supervisor and I are concentrating on natural product synthesis and one of the projects we are involved in is the synthesis of binaphthopyranone derivatives. In synthesizing the naphthopyranone, my main focus was on one particular throwback in the mechanism. The author described a domino Michael-Dieckmann step with a success rate of 95 %, but the throwback is that we were only able to achieve 26 %. Therefore, my task was to analyse the reasons behind this discrepancy. It proved difficult to find out the exact details of the author's work. This made me reconsider the differences in standards for experiment protocols – which could come down to differences in knowledge translation.

In answering questions like this, I learned it was important to gather information from a variety of resources. Here in Germany, I am surrounded by researchers with a lot of experience in this field. I am able to learn from others who are very active in their field, gathering information and fresh perspectives from all sources. The team at the Institute of Bioorganic Chemistry organizes weekly organic chemistry learning groups to refresh certain mechanisms and reactions. These take the form of one-hour seminars with various student presenters, and “Cheminars” presenting new chemistry topics every week. This really was a hub of knowledge translation. At the institute, I was able to witness how scientists transfer their colleagues' results to their own research context and examine them in experiments.

The transfer of knowledge from one context to another is also a theme in my own personal life. My cultural background is Syrian, Palestinian, and Canadian, and so learning about my own background involves translating information across generations, through history lessons, and even on social media. I take the experiences of my parents, my relatives, and my own memories to learn about my heritage.

Is there anything you have learnt on a personal level from your stay in Jülich?

**Tasnim Abdalla:** This stay in Jülich is the first time that I have lived alone. I am learning a lot from this experience: instead of trying to avoid unfamiliar situations – sometimes it's best to use my skills (or learn new ones) to move forward. I can recall one occasion when I got lost cycling home from work. When Google Maps was unable to save me, someone showed me how to orient myself according to the position of the sun and head in the right direction. This all ties in with chemists' strategies of reaching their objectives – there is more than one way of getting there. I don't have to use the navigation tool on Google Maps every time I am trying to get from point A to point B.

This first journey to Europe was about relying on myself but also asking for help when I needed it – and along the way, finding out how friendly strangers can be.

The interview was conducted by Kristin Mosch.