

INTERVIEW

with Lotfi Talalwa, PhD student at the Central Institute of Engineering, Electronics and Analytics and the Institute for Neuroscience and Medicine at the Forschungszentrum Jülich

“I WANT TO BUILD A PHD PROGRAM IN PALESTINE”



You came to the research center as a participant in the Palestinian-German Science Bridge. How did you get the idea to apply?

Lotfi Talalwa: As it is one of the biggest European research centers, I had already heard of Forschungszentrum Jülich during my studies. The suggestion to apply came from my Palestinian supervisor. First, I was invited to Jülich for two weeks for interviews and evaluations; after that I was accepted. I am a physicist and what especially motivated me was the chance to do experimental research in Germany. In Palestine, the main focus is on theoretical physics, since we don't have laboratories and equipment. However, I prefer to work with my hands.

You are presently working on your PhD at the research center and at the RWTH Aachen. In Jülich, your dissertation project combines the competences of two institutes: the Central Institute of Engineering, Electronics and Analytics (ZEA), Engineering and Technology (ZEA-1), and the Institute for Neuroscience and Medicine (INM), Molecular Brain Organization (INM-2). What exactly are you working on?

Lotfi Talalwa: It is my goal to develop Imaging Phantoms. These are devices that are used for calibrating imaging technologies such as Positron-Emission-Tomographs (PET), Magnetic Resonance Imaging (MRI) and Hybrid PET/MRI, a combination of both technologies. A phantom is built to react to these technologies in a comparable way as a living organism. It can therefore be used to analyse and evaluate the performance of these techniques. During my Master thesis in Malaysia, I got experience constructing a Lung Phantom for PET imaging. If you buy them, they are very expensive, so I developed one that is less expensive to produce. Additionally, I used materials that are readily obtainable in Malaysia and Palestine. My dissertation project is building on this knowledge to construct a Brain Phantom for Hybrid PET/MRI. To succeed in this, I connect knowledge from different disciplines including materials science, neuroscience, engineering, physics, production technology and nuclear medicine to develop phantoms for individual slices of the brain and to produce them with the aid of 3-D-printing technology. Once constructed, this will be the first phantom produced that provides the capability to evaluate, analyze and calibrate such sophisticated imaging technology.

What is your scientific background?

Lotfi Talalwa: At my home university, the Arab-American University in Jenin in the Palestinian West-bank, I first completed a Bachelor degree in physics. Afterward, I wanted to focus on applied physics in medicine. Since this field of study isn't offered in Palestine, I completed my Master degree at the University of Science in Malaysia (USM) – the most highly ranked Asian university in this discipline.

It can be difficult to get oriented in a foreign country. How was the beginning in Jülich for you?

Lotfi Talalwa: Colleagues from both institutes helped me with everything: in administrative issues, practical questions and socially. They are so kind and I am so proud to be here and to be a part of this team. There are currently 21 (BSc, MSc. and PhD – as of 31 January 2019) students from Palestine at the research center. On weekends, we meet to cook together or to go on trips, for example to Cologne. I also chat and skype almost daily with my family at home. I miss them and my friends in Palestine. There I am never alone, not like here. This is a special challenge for all international students.

You expect to finish your PhD in 2021. What comes next?

Lotfi Talalwa: I want to contribute to the development of the research landscape in Palestine and with that to advance cooperation between Germany and Palestine. I would like to work as a university professor and to share the knowledge I have gained with Palestinian students. I also want to build new MSc and PhD programs. Currently, there are only three PhD programs offered in Palestine, in theoretical physics, chemistry (only courses are offered at the university, research must be conducted elsewhere) and sociology. We have many very capable students who would make excellent professors and researchers. They are highly motivated and willing to work hard. What is missing are positions, laboratories and equipment, as well as an overall sense of fairness and stability. I want to create a nucleus for this scientific infrastructure.

What do you need to realize these goals?

Lotfi Talalwa: Honest people, who are willing to serve their country, and funding for laboratories, research facilities and staff. At my home university, there are currently less than 20 full professors across all disciplines for over 80,000 students. I want to live in my own country, found a family and work, but for this, I need an income. If I don't succeed in acquiring funding I will be forced to search for a job abroad.

What would be an adequate income for a professor?

Lotfi Talalwa: For someone with a PhD who goes on to teach? Between 1,800 and 2,500 Euro per month depending on his/her field and experience level.

Gross or net?

Lotfi Talalwa: In Palestine, that is more or less the same, but these numbers are close to the Gross before deductions.

Do you have a concluding remark for this interview?

Lotfi Talalwa: I have learned a lot at the Forschungszentrum Jülich. Not only scientifically, but also regarding management and administration. As a member of the graduate school HITEC, I am able to participate in seminars for project management, organization and leadership of research teams, as well as in topics such as good scientific practice, creativity and critical thinking. I plan to put these skills to good use. It can't be the intention of the Science Bridge to bring about further unemployment in Palestine. I have overcome many difficult situations in my life, and I know that I can contribute to developmental work and serve my country. All I need is a chance.

The interview was conducted by Kristin Mosch.