

**"Studying abroad will advance you in many ways," says Hana Bernardová,
a recent graduate student at the University of Oxford**

The [University of Oxford](#) is among the world's most prestigious and highly-ranked universities. It was this university that attracted the attention of the talented student Hana Bernardová from Valašské Meziříčí. Hana has been involved in scientific work since her studies at grammar school. She has won several awards for participating in the Secondary School Professional Activities (SOČ), including the Czech Little Head Award 2020, the J. Heyrovský Foundation Award, and the Learned Society of the Czech Republic Prize. This July, Hana graduated from her Master's studies at Oxford as the 3rd best student in her class.



Hana, what profession did you dream of as a child? Were you drawn to the natural sciences from a young age, or did you gradually find your way to them?

From a young age, I was drawn to the natural sciences; I enjoyed reading about the universe and the human body in encyclopedias and watching documentaries about nature. Until I was 16 years old, I dreamed of studying medicine and becoming a doctor. But after a year of experience in the lab, I reconsidered my plans and became passionate about research. Nevertheless, my passion for biomedicine remained with me.

You have already looked into the laboratories during your studies at grammar school as part of SOČ. How did you get this opportunity, and can you tell us what you did?

I got into science through the Biology Olympiad. In 9th class, I managed to get into a camp for young biologists and chemists, and there, I learned from other participants that you can try research in high school. I decided to try it. In the end, I got so excited about research that I worked in three labs during high school studies and wrote three SOČ theses. During my first research internship, I worked on the effect of light on plant responses to salinity stress at the [Laboratory of Growth Regulators](#) at Palacký University in Olomouc. The following year, I started commuting to Prague to the [Institute of Experimental Medicine of the Czech Academy of Sciences](#), where I researched brain regeneration after stroke. Finally, I moved to Brno, where I worked for a year and a half at [Loschmidt Laboratories](#), where I focused on the structural biology of enzymes.

You've had quite a collection of experiences for a high school student. What were your impressions of working at Loschmidt Labs?

I remember my experience at Loschmidt laboratories very fondly. It was my first time working intensively in the lab (usually two to three weeks a month), and I learned so much. I had amazing guidance from Martin Marek, and the team was great, everyone in the lab was very supportive, and we had a lot of fun together. These years were wonderful for me.

Due to your excellent results, you were accepted to the prestigious University of Oxford, where you completed your MSc in Molecular and Cellular Biochemistry this year. Can you still remember how the entrance exams went and how you prepared for them?

The Oxford admissions process is a three-round process. In the first round, I sent the university a "personal statement", a combination of a CV and a motivation letter explaining what I want to study, my motivation, and what I have already done in the field. In addition, a letter of recommendation from a high school teacher and my expected grades in the high school leaving exams were also sent.

Based on these documents, I was invited to interviews. These were held at Oxford and were purely academic – I solved molecular biology, organic chemistry, physics and mathematics problems in front of a group of two professors. There is no way to prepare for the interviews because you never know what they will ask. Also, the professors don't care what you know but how you think. So if they see that you know the answer, they will give you a more complex question until they get you to a situation where you know absolutely nothing. And only then do they start to care. However, I've greatly benefited from the knowledge I've gained from research and the Biology Olympiad.

After the interviews, the University will inform you if you are conditionally accepted, but it doesn't stop there. You still have to pass your high school leaving exams with given grades – in my case, it was an A in biology, chemistry and maths – and you must also provide a language certificate. Then, I was accepted.

Can you describe how your studies went? Is there a significant difference compared to studying in the Czech Republic? What about the financing of your studies?

The study is different from the Czech Republic. Although we normally attend lectures, exercises and laboratories, a relatively large part of the teaching takes place in the form of tutorials, which are meetings between two or three students



and a professor who is an expert on the topic being discussed. You then spend an hour or two discussing the topic, asking questions, or getting feedback on a pre-assigned essay or set of problems. It's very challenging because you can't hide that you don't know something, but it's a fantastic opportunity to meet scientific leaders in different fields and learn a lot from them.

Another big difference is that the exams are written; they are a cross-section of all the topics covered, and everyone in the class takes them simultaneously. Even the assessment is very different from that in Czechia; it depends on how your classmates write the exam. To get a "first-class", the equivalent of a Czech A, you must be in the top 15-25 % of the class.

Funding is a big topic. I was lucky to start in a year when the pre-Brexit rules were still in place, so I didn't have to pay international tuition fees. However, studying in the United Kingdom was still very expensive. Fortunately, several foundations in the Czech Republic support studying abroad, and scholarships are also available directly from Oxford. I, for example, was supported by the [Bakala Foundation](#) and Litturela Foundation, and through University College Oxford, I received the [Dr. Andrei Klein scholarship](#).

What was the biggest challenge for you during your studies?

The biggest challenge at the beginning was the English language. Although I had passed the C1 exam before studying, I was unprepared to write three detailed academic essays of 1500-2000 words each in three hours. Fortunately, you can learn very quickly under pressure, and after six months, you can do the same as the home students.

Could you work in the lab when you go to a foreign university? How did you find a team to work with, and when could you start?

During the first three years at Oxford, which were primarily theoretical and very time-consuming, it was impossible to work in the laboratory. However, there was an opportunity during the summer holidays when I did two internships. During the first one, I did research on spinal cord development at the [Institute of Science and Technology Austria](#). During the second one, I did research on children bone cancer at the [Vienna BioCenter](#). In my final year at Oxford, I spent a full year working in the lab on my thesis. I worked with Professor Szele at the [Department of Physiology, Anatomy and Genetics](#), researching brain development.

I always chose the teams where I worked according to the topic and the quality of the research at the given workplace, but mainly also according to my sympathies with my potential supervisor and colleagues. In my experience, the atmosphere in the lab significantly influences whether one is happy with one's life and work.

What would you say to students considering studying abroad?

I would tell everyone not to be afraid to follow their dreams and look for ways to make them come true. Studying or living abroad is life-changing in all directions and opens up previously undreamed avenues, whether in career or personal life and self-development. But at the same time, I would like to say that taking things one step at a time is perfectly okay. If you don't feel like studying in faraway countries, apply to closer ones. If you don't feel like spending a few

years somewhere, take advantage of Erasmus or just short-term internships abroad. Every experience is great and counts.

What are your plans?

During my high school and university studies, I have tried many fields of biology, which I appreciate in retrospect because it gave me an excellent overview and helped me clarify what I want to specify professionally.

Ultimately, cancer biology won, and I am starting my PhD studies at the [Children's Cancer Research Institute](#) at the Medical University of Vienna. Here, I will be researching Ewing's sarcoma, a type of childhood bone cancer whose treatment has not progressed at all in the last 40 years despite a very poor prognosis. I will aim to find out in which cells and under what conditions this cancer arises and to create a reliable mouse model that could be used for further research and drug testing. I look forward to my PhD studies and am curious to see where my research will take me again. However, I would like to return to the Czech Republic one day.

Hanka, thank you very much for the interview, and I wish you the best of luck in your personal and professional life.