

IROP Interview 2024 – Maria Gruber – TUM – Hosted by the Francis Crick Institute via Imperial’s Department of Chemistry

‘Be brave and never stop exploring’ – From Munich to Imperial College London for IROP, Maria is making the most of new experiences



Hi Maria, how are things?

Hi, very good thanks. I’m currently sitting in a fancy meeting booth at the Crick.

First of all, why did you apply to IROP?

I applied to IROP because I had previously been a ‘Buddy’ at TUM, my home institution, helping students from Imperial who come to Munich for summer research. So when I heard about the chance for me to actually go to Imperial for IROP myself, one of the best Unis in the Biochem field and because of my previous encounters with some lovely Imperial students I was like yeah, of course I really want to do it as well.

That’s lovely to hear – this is a true exchange! Maria, can you describe your IROP research project?



For my IROP research project I am part of an amazing research group, that is actually based at the Francis Crick Institute. This is one of the newest & biggest biomedical research institutes in the UK, that hosts many renowned research groups and brings together universities, like Imperial, companies and core facilities like the Cancer Research UK.

Under the supervision of a PhD student, I was able to synthesize peptides using Fmoc-based small phase peptide synthesis (SPPS) to investigate & characterize cyclic peptide binders of the protein deubiquitinase, "OTUB1", which is a really interesting enzyme. OTUB1 influences the DNA damage repair pathway and could be interesting to target in cancerous cells as a future therapeutic approach.

And are you enjoying your research project?

Yes, I really do enjoy my research here. It was a huge change for me because I'm coming from a more biological background and my project is more into structural chemistry so the work flow is kind of different but I have a really great team and a great supervisor. They taught me everything and are really really supportive. If I have questions, I can ask anybody. **So it's a really cool exposure for me to a new topic of science.**

So you're working on research that is quite different to your studies at TUM.

Yes, for IROP I really on purpose looked for a research group that offers something completely different. I mean, I still wanted something with a somewhat medical background that has a higher purpose of course, but I wanted something completely new to what I've experienced so far at TUM.

And how is the Francis Crick Institute?

It is amazing. It's really, really cool and like I am drooling all over it because it's so nice and I have actually never experienced such an interdisciplinary collaboration. And I know we hear that phrase everywhere, but the Crick really does have so many different disciplines.

I've got to meet Nobel Prize winners, I have seen outstanding researchers and presentations of their work from all over the world. There are talks basically every day, and **I have the opportunity every day to go to free seminars & symposia and widen my horizons and my understanding.**

I'm like, really happy and grateful and appreciate it very much that I can be here every day.

So we've talked about your research project, can you tell me what has been a highlight of your IROP experience so far?



I would say scientific-wise, just being here and meeting so many people.

And on the other hand, a highlight is all the international IROP participants I've met; they're from Japan,

Germany, the US and **it's just so great to meet so many like-minded people my age** that are from completely different fields. We are exploring London and the UK together, it's just great.



It's great that all the IROP students have been busy exploring. Do you have a favorite thing to do in London?

So I would say I have two favourite things. There's this site, 'Today Tix', where you can get musical theatre tickets easily and cheaply. I've used it about five times already. So far I've seen Wicked, Hamilton and we did an IROP trip to Shakespeare's Globe Theatre. I'm going to see Sister's Act next. I'm like bring it on, I'm watching everything!

My other favourite thing to do in London is walking from my lab to my halls in Waterloo, so that I can see everything, like Buckingham Palace, London Eye, Westminster Abbey and Big Ben. It takes around 40 to 45 minutes so it's quite a walk, but I see so much of the city by just simply walking every day.

What have you learned from this IROP experience?

I think what I've learned is just to be brave and never stop exploring.

Because like I said, coming here to a completely different city and everything being in English. I joined a new research group and I was a bit afraid, just because it was such a new area for my lab skill set and soft skills, but I was brave and I really got my reward from that because now I have so many new contacts and I've learned so much.

So I would say that's my biggest learning from IROP - to just do it, even if you're afraid there will always be people who will help you.

Do you think programmes like IROP are important and why?



Oh yeah, definitely. **I'm a big advocate for international research experience** because I think it's the only way to **build your open-minded scientific world**. It's so important to bring different approaches and views to a topic.

For me, being abroad and meeting other international people, I think that's the most challenging but rewarding exposure you can have. It's so, so, so important and **I think everybody should leave their comfort zone at least once**

to get that international exposure.

And I think already these two months have brought me so much insight into what I want to do in my future and how I want to contribute to science.

What does the future hold for you?

So I will definitely return to Munich and do my bachelor thesis there, but then I'm actually thinking about doing my masters here in the UK because I think it's just such a cool environment and a lot it has to offer to young aspiring scientists.

We would be lucky to have you back in the UK, Maria. You mentioned language and doing research in English. What would you say to any students who might feel worried about their English level and applying to IROP?

I would say language should not stop anyone from applying. Of course, sometimes I also don't find the words and then I have a thought in German first and then I need to translate it, that takes a few seconds. But you know, with your hands and feet and just having the courage to try to speak English, you can already do so much. You don't have to be fluent for people to understand you.

At Imperial and London it is a highly international community, have you found that lots of people don't speak fluent English here?

Oh, yes, yes, of course. Like the coolest and most outstanding thing I recognize every day about London and the intercultural experience, is the tube. You just hop on the tube anywhere and you hear so many languages, see so many faces and backgrounds.

This is my favorite part about London, but of course, the research and all the people behind the science at the Crick are also so internationally based. You never feel alone, even as a German in an unfamiliar environment

Maria's summary of her IROP experience: Overwhelming, but a lot of fun and excitement. I would do it again in a heartbeat.

