

Pathways Podcast Season Three, Episode Eleven – MChem Insights

00:00 – Tom: So, hello and welcome back to the next episode of the Pathways Podcast in Chemistry. My name is Dr Tom Ritchie. I am an Assistant Professor and Director of Student Experience in the chemistry department, and as always, I'm joined by Adam Alcock who will introduce himself in a moment. We are really lucky today to be joined by Georgia Shreeve, who is a fourth year MChem student, who's going to speak to us a little bit more about her experiences of doing an MChem and what the fourth year of that degree is like compared to the previous three years, because we know for many of you, you have some questions about this.

So, let's get into it. Adam, Georgia. Hello. Thank you for joining us today.

00:46 – Adam: Hi, Tom.

00:47 – Georgia: Hello.

00:48 – Tom: So, as I said in the introduction, we've had a lot of questions, Georgia, about transitioning into the MChem year from year three, with some students saying to us that they're unsure about what to expect because it is a different experience from years one to three. With that in mind, could you speak to us a little bit more about your experience of the MChem part of your degree please?

01:16 – Georgia: Yeah, of course. So, the first thing that I would say is that everybody's trepidations are probably correct in that their fourth year, their MChem year is very different to the first three years at university. Even though the year is split half and half, whereby half of it is taught in a module and then the other half of your year is spent doing research, it does feel very different overall, I found the experience really enjoyable once I'd found my feet. Perhaps that first month maybe or so was the hardest part where you are really like getting stuck into your research project and working out exactly what it is that you want to do.

But once you've done that and you've met everybody in the group and all of those sorts of things, it really flows really nicely. And I, looking back on it, it's definitely the year where I learned the most about myself as a chemist and the most about doing research and what it takes to work within a research group as well.

01:59 – Tom: So that's great. I think that's a really useful introduction to the differences. I wonder if you could help us unpick a little bit more about what fourth year looks like on a, on a practical basis, I think for those who are about to going into it.

02:10 – Georgia: Yeah, absolutely. So, when the year starts, or just before the year starts, you find out who your project supervisor will be and they'll, you'll have a series of backs and forths with your supervisor to begin with, talking about getting you introduced into the lab and things like that along

with. Studying for your other modules as well. In terms of getting started in the lab and the things that felt really different to me, especially, considering I've spent a lot of my last four years studying online, is that you have to get used to going into an office every day, like you work in a job from nine to five, and getting started and having your own tasks and things that you set yourself.

In the end, after you've spent a little bit of time discussing with your supervisor what you want to do, Other than that, it's sort of all on you, which is something that takes a little while to get used to. Especially how things run in the first three years where, you know, you have an assignment during week eight and an exam in week, whatever, that feels really different when you are just in the lab getting on with your own work every day.

03:12 – Tom: Thank you. Yeah. And, and again, it's really good to hear that. I, I wonder if you could speak a little bit more how you approach that change, because I think. You are right. That is a big change for a lot of students that move to kind of real independent learning. So, I wonder what mechanisms you developed as part of that.

03:28 – Georgia: Yeah, definitely. I remember since you asked that question, something that really struck me is how nervous I was the first time I met the group and I went and stood inside of their research lab, which looks so different to typical undergrad labs, right, where everything is set out super cleanly and everything's labelled really nicely.

And it's obviously not that things aren't like that in research labs, but it's a completely different workspace in a different environment. So, I don't think necessarily, when it first happened, I was really prepared for it. I was, um, definitely, I. Struggling a little bit with imposter syndrome thinking, oh my God, I'm stood in the middle of this research lab and being told to just get on with myself, but something that I found really helpful was relying on other members in the group who had previously done an MChem or an MRES. And we're now doing their PhDs and things like that. And just recognising the fact that every single person has had the same experience where they've stood in a research lab for the first time and run an experiment on their own for the very first time without somebody standing over your shoulder watching you do it.

It's really just about taking the time to build that confidence in yourself, um, as your project develops. That's really important.

04:41 – Tom: Yeah, and I think that's a really interesting point, and. Almost you can draw out what you're talking about, about that first day in the lab and that fear and relying on others.

And actually, you can apply a lot of what you said to people who aren't staying on to do an MChem, who are going into jobs out in the world because it will be the same thing. It'll be the same feeling on that first day of going, I do not know what I'm doing. I'm terrified. And actually that, that sense of imposter syndrome that I think you mentioned, that's a really important thing for people to realise they are going to feel. But that's part of that process. And actually, if you aren't feeling that imposter syndrome to an extent, then you are probably missing something or you're probably overconfident about something. So, it's worth almost embracing that feeling. I think when it comes, I think that's a big part of realising that change is difficult, but that you will get through it if you just stick with it. So, thank you. Thank you for sharing that. Adam, do you have any questions that you wanted to ask?

05:36 – Adam: I think it's really interesting how you've spoken about your MChem project. Um, half the year is made up of talk modules as well. Did you choose your modules to compliment your research or were they completely separate?

05:47 – Georgia: That's an interesting question. I chose the supervisor that I was interested in before I chose my modules, because I thought that that was more important to me that I would spend the majority of my year working with a supervisor that I knew I would enjoy spending time with and whose research I was interested in.

And then I think on the back of that, once I'd sort of had that discussion with my supervisor. This was still within the first three weeks of term or two weeks of term where you can switch your modules. And we sat down, and we discussed really what the premise of my project would be. I then went away and thought to myself about what would be the best modules, whether the ones I had selected would continue to line up with the work that I was doing.

And it so happened that I ended up changing one of my modules on the back of that decision where I sort of realised as well, how big this project might be and how much time I might have to dedicate to it. I ended up switching to do a module outside of chemistry in order to free up a bit more time for myself and to do something different to just studying science all the time as well.

So yes and no, I suppose.

06:53 – Adam: I think it's really good to hear. We speak to a lot of students about the importance of maybe mixing up modules and things and ensuring that they've got the right balance of subject and time and interest. I think it's always really interesting to add an external module to a chemistry degree as well.

Particularly as it's so, so science heavy. It's great sometimes to be able to inject a little bit of difference from another department, so it's really good to hear. Thank you for sharing.

07:16 – Tom: Yeah, that's great. Thank you. I think for the next question, something I wanted to ask is, reflecting on the entire four years that you've studied chemistry at Warwick, what have been the most challenging and rewarding aspects of being in the department and completing an MChem?

07:30 – Georgia: So, I think it's easy to reflect on my fourth year most easily because it's the most recent one. Um, And I can recognise in myself that this has been the year out of the four where I have definitely grown the most and learned the most about myself as an individual and as a chemist. And I think that's probably because of the fact that it's the first time really, that you don't have everything guided for you, um, in a certain sense, but there's definitely been other aspects that have been particularly challenging.

Obviously, I did the first couple of years of my degree in the Covid pandemic, um, which provided me with a completely different experience to what I was anticipating going into university. Um, and it

felt like, for only really for my third and fourth year did I really get that true experience as what it might be like to be at university, um, in normal times, you know, um, outside of a pandemic.

But the thing that's been the most rewarding for me, I think has been completing this project in the last year. Some of my results are hopefully going to be published and I think there was sort of nothing quite like that feeling of getting your dissertation printed out nicely for you at the end, and it's something you can be really, really proud of for a long time, I hope.

08:45 – Tom: I think it's; it is a really, it is a really interesting point you say and about how that final year project was a standout experience for you. You mentioned that it's been a really useful experience of growth, but it, can you talk more kind of specifically about what you did learn from it and how it shaped your understanding of chemistry, say compared to years one to three,

09:03 – Georgia: Yeah, it's entirely different in so many ways that would be very difficult to explain to somebody before they experience it for themselves. It's like how they say about learning a language, I think, where they say, you know, you can learn it in a classroom, but you don't learn anything until you go to a country, and you study it, and you meet the people who speak this language and you interact with them.

And I found the exact same experience for me. In the lab where you think you understand because you've followed a protocol year in year out in the labs, you know, a couple of days a week. But it's so different when you go into a lab on a different day and it's just you there and you know, you have to collect X number of results for your project. And it's something that not only the group is relying on sometimes for their results, but it's super important for you, right? You have to create this story throughout your project to obtain. Something that people will want to read at the end as well. So definitely very, very different, in a way, like I said, that's probably hard to explain.

10:05 – Adam: Not really a question, but just something that I've noticed, which is really refreshing. Um, you refer to yourself as a chemist. So, when I speak to students, if I were to say to them, can you describe who you are or what you do, that they'll say, I'm a student. And what's really, really great during this conversation is you say, I'm a chemist.

Do you think doing research has really added to that? Do you think you would've said you were a chemist at the end of like year one or year two or year three, or do you think that transition has really been cemented that you are a chemist through actually doing a research project?

10:38 – Georgia: Yes, absolutely. I don't think if we had this same conversation a year ago, I would've described myself as a chemist even though I'd spent three years studying chemistry, I don't think. You get that same experience where you can comfortably label yourself as being a chemist as such, you know. I spoke a little bit earlier about imposter syndrome. It's definitely something that I felt for three years, maybe for three and a half years, until I really found my feet in my project this year.

It wasn't until now looking back and reflecting on it that I can really say that it's something I'm comfortable to describe myself as.

11:13 – Adam: Yeah, honestly, that's absolutely amazing to hear really, because I think imposter syndrome is something that we all deal with, and we don't often feel like it goes away.

And I think you, your testament really to the fact that it does take a while. It can take years in order for people to feel comfortable doing what they're doing in the environment they're in. So, thank you so much for sharing.

11:34 – Tom: Yeah, I think that's a really, it's a really good point, and I love the idea that you now see yourself as a chemist, Georgia, with that in mind, with the skillset that you've kind of developed over the last four years, but particularly over the last six months, now that you're finishing your degree, what's next?

11:50 – Georgia: That's interesting because I've spoken a lot about being a research chemist and things like that. Um, I'm not going down that route. I'm not doing a PhD. I'm going to move back to the big smoke and join a, um, Company in medical communications, which is sort of linked to the industry. They do a lot of work with pharmaceuticals, this company that I'm joining.

So, I'm definitely keeping my fingers in, you know, in all of the areas, but not, not going to be in the lab, you know, day in, day out anymore.

12:18 – Tom: I wonder if you could talk maybe more about any particular skills that you got from your degree or, or time at Warwick that have helped you in that choice. You know, it sounds a little bit like science, communication and those sorts of things.

12:29 – Georgia: Definitely. So, it's almost entirely, um, medical communications can sort of be used as an umbrella term for scientific communication as well. Um, it wasn't until doing this MChem, funnily enough that I was certain I didn't want to do a PhD, which I suppose it's just as much as a reason to do it, you know, to decide whether you want to do one or not. And it's not necessarily a bad thing that I've chosen not to do a PhD. Um, but I've learned so many things this year that I'll take forward the not. Things that you would think about. You know, being in a lab every day weighing out certain amounts is of amount of a substance.

I won't use that in the office day in, day out, but I've learned lots of interpersonal skills, you know, working with different people and embracing being in situations that I'm a little bit uncomfortable in. Um, something that I had to really get used to this year was being the newbie, you know, being the person who probably knows the least, or almost certainly, you know, you are working with professors and PhD students who are really experts in what they do.

So, you have to get comfortable being the person who. Isn't, you know, necessarily the leader in the group, which I found quite difficult, um, initially, but now I'm way more comfortable just being the person to put my hand up and say, I'm sorry. I don't really know what's going on here. Um, and I

think that's something really important to take forward, you know, as a grad into a new job and into a new environment that I won't have experienced before.

13:54 – Tom: Yeah, I think that's a really good point. And, and that ability to have humility, I guess, which is what you're saying, that you don't necessarily know everything because I think. Something that we find with a lot of graduates is that they, they finish, they graduate, and because they've completed a degree, they think that they can go into an organization and that they should be the boss from day one, which I get where that comes from.

I've been there myself, but there's so much more learning. University is your kind of your test for being an adult to an extent. And now that you are finishing, now you are learning how to be an adult in the real world, you know, in that kind of, how you go and learn to drive after you pass your test. I feel like there's, there are some similarities between that where you'll look back Georgia when you were 30 and you'll say, I didn't know anywhere near as thought, anywhere near as much as I thought at 21 or 22. And actually it's only now in retrospect that I realize how much I've learned over the last 8, 9, 10 years, whatever it is for us, we are really interested as well to think about what could the department be doing better to support students who are pursuing an MChem degree.

So, you know, just reflecting on your experience over the past three or four years, is there anything particular that you think the department could do better, whether it's related to learning, support, education, you know, whatever, whatever you think.

15:07 – Georgia: I think bridging that gap between third and fourth year is something maybe that the department could focus on a little bit more.

Obviously, I suppose that's kind of the point of this podcast is for people to learn a little bit more about what it's like going making that step. But I wish I had known a little bit more about what I was getting into and what it would entail. Obviously, everybody just says you are going to do a research project, but there's no, I don't think there's necessarily enough information for people about what that entails and whether it's the right thing for a lot of people, um, compared to, for example, doing an MRes, which is something that people choose to do instead of their MChem. I think, I wish I'd been more informed when I made that decision last year.

But I guess this is probably the best way for people to learn about it, right? To hear about people who've had that experience. I think it would've been good for me to hear the same thing a year ago.

16:02 – Tom: I think so, and I think that that's kind of, as you say, the reason behind this podcast is to get your experiences and to try and share them with people who are coming through. I think one of the things that we are really interested in the department is demystifying a lot of these terms that we kind of throw about because we think everyone knows what they mean. You know, we, we talk about MChems, we talk about MRes, we talk about PhD, we talk about RSC, you know, all these different terms and phrases and acronyms.

And yet, I don't think we ever check to make sure everyone knows what they mean. Language is the ultimate way to access this stuff. And if someone, you know, if you come from a household or, you're the first in family to go to university, it can be really difficult to understand a lot of what these terms mean. Particularly, you can't rely on your parents for this because they won't have gone

through it. Even if they did go to university unless they did an MChem degree at Warwick. They're not necessarily going to know and so I think it's, it's really important, as you say, for, for the department to work on.

How do we bridge that transition between, between year three and year four, but actually start to discuss it earlier on?

17:06 – Adam: I think it's probably worth this point just discussing, um, we've, we've mentioned MChem and MRES, so, and MChem is an integrated undergraduate-master's degree. So, you kind of, you, you do the undergraduate stuff and then your final year is kind of topped up as a level seven master's qualification. MRES is a masters by research, and typically students would do this if they've done a BSc and then they'd go on and do an MRES afterwards, a Master of Research. Essentially, at the end of the two qualifications, they're exactly the same. You have a level seven qualification, which is master's level, and they're both equally as valuable.

So there, there are those two different routes, and we do see a lot of students chop and change. Many of our listeners will know and students within Warwick Chemistry, there is the option to switch and change between BSc and MChem route, but we also have a lot of students that graduate with a BSc and then continue on to do an MRES, which is essentially just a big research project.

What I would say is that, um, if you are thinking of switching or you are unsure what any of these terms mean, you can always make an appointment and see your personal tutor. You can call into the undergraduate office. You can even speak with Tom or I. If you check the blurb on our webpage about this episode, we've created a link there which will help demystify some of these acronyms that we keep using.

But I think it's really important at this point of the podcast that we just clarify kind of what an MChem is and what an MRES is. And if anybody wants to chat about either of those, then absolutely ask the question, come and find one of those and we can help or signpost you to somebody who'll be able to talk to you in more detail.

18:45 – Tom: Fantastic. Thank you Adam. I think that's a really, a really useful kind of intervention, because again, we are doing the thing that we're saying we shouldn't do, which should presume that people know about these things in advance. And so, I think that's, it's really useful. And yeah, I would recommend looking at that link, we will put on the blurb that shows you almost like a glossary of these terms and what they mean, because it can be slightly overwhelming and it definitely feeds into imposter syndrome if people are using language around you that you don't necessarily understand.

So, Georgia, thinking a little bit more about your entire four years at Warwick, I'd like to ask you for perhaps your most memorable or unforgettable experience related to Chemistry that you've had.

19:27 – Georgia: That's a really interesting question. The first thing that popped into my head when you said it was actually the, the final thing that I did, which was my Viva in relation to my research project, because that really signified to me like the end of this four years, the end of this particularly difficult year of hard work, and sitting down, having that discussion with my first and second marker, to talk about my research project. The Viva is something that definitely people worry about, I think going into fourth year, and for me, it actually ended up being one of my best experiences of the

whole year because I was so proud of the work that I'd done and I was so excited to talk about it with the two people who, other than my supervisor, had actually taken time to read it and to understand exactly what it was that I had done.

So, I think the fact that I'd spun that what I had expected to be maybe a negative experience into something that I really enjoyed, I think that's something that I'll definitely really remember and I probably won't experience something like that again considering I'm not going to do a PhD.

20:32 – Tom: So, finally, I wanted to ask you with the students who'll be going into their fourth MChem year, uh, in October, who are just starting their journey and, and this big step change that you mentioned, do you have any kind of specific advice to give them? Is there anything you wish that you'd known? Or would go back and do differently if you were in their shoes now?

20:52 – Georgia: Yes, definitely. The one thing that I would say that perhaps won't necessarily come very naturally to people is to just really try and get stuck in with your, um, supervisor's group that you are working with obviously three years into uni, everyone will have made friends and will have their own friendship group, but. This group of students, PhD students, postdocs, and students and things like that. I would really recommend getting stuck in with these guys because they're interested in the same research that you are.

They're maybe even doing similar research. Once I had gotten over that nervousness of being the new kid and had really just got stuck in and enjoyed spending time with these people, it made the whole experience for me so much more enjoyable where I looked forward to going into the office every day and I look forward to having lunch with these guys, which is something I definitely didn't expect I would be doing at the start of my project.

So, my advice would just be, get stuck in with the people as much as the work.

21:49 – Adam: So, I think you've spoken quite a lot about the demands of doing an MChem and the research and fitting in with the groups. What is the work life balance like? Do you still have a social life? Have you been able to fit in, still be in a student whilst you are at, whilst you are at Warwick?

22:05 – Georgia: Yes, definitely. It's different I would say, because obviously you are studying for modules as well as finding time to be in the lab and work on your project.

So, that's something that you have to sit down and do with your supervisor early on, work out what days you're going to be in the lab and how that's going to fit around your work. But I actually found entire, in terms of a work life balance, it was a little bit easier for me because I. I knew when I was going to be in the lab that it would be nine to five, three or four days a week, depending on the demand for the work that I had to do, and then outside of that, Especially before term three when things were a bit easier, I had a lot of time to do what I wanted to do to play sports and see my friends.

Obviously that changes slightly as it does for all students in term three when you have a dissertation to write and other things to prepare for. But the work life balance, I would argue was. Slightly better for me this year than it has been in previous years, which is I, I suppose is a good thing.

23:02 – Adam: I think it's an amazing thing. I think we hear from a lot of year three about how overwhelmed they feel. Um, so to hear that you've found a really good balance in year four is really positive. And like you say, it's incredibly important I think in any aspect of life, whether you are working or studying that you do find that balance.

You do make time to socialise, to do sports, to see friends. Because burnout otherwise occurs. So, thank you for, uh, sharing your experiences. It's great to hear.

23:30 – Tom: Yeah, thank you Georgia. I think it's been a really useful conversation for us to have and I think you, you've provided some really useful advice and guidance for people who will be, Either starting their MChem year or thinking about it, who are going perhaps into year three who are starting to think, Hmm, I wonder if I'm going stay and do the MChem next year, or if I will actually switch to an MRES or if I'll just do, uh, my undergrad Bachelor's BSc.

Thank you so much and good luck, in your new role as well. I think that's a really, really big opportunity for you. So best of luck with that and do stay in touch. Uh, good luck with graduation and speak to you soon. Thanks so much, Georgia.

24:05 – Georgia: Thank you both.

24:07 – Tom: Thanks.

24:08 – Adam: Thank you.