

# Tales from the lab

**Andrew Holding**  
(University of York, UK)

As we grow up, the first way many of us meet science is as a series of amazing facts and figures. Yet, in reality, those facts and figures are the smallest part of what makes science what it is.

The people who drive science are unique and have their own stories and tales of what made them fall in love with research. Those stories describe the events that made them who they are.

When we came up with the idea for Tales From The Lab, we wanted to share those stories and connect with new audiences to show that science isn't just the work of some old, very dead, men. In place of stereotypes, we wanted to show that science is for everyone. We aimed to provide an opportunity for people to share their stories in their own words.

Over the last year, with funding from the Biochemical Society, Tales From The Lab has captured ten stories from scientists at different career levels. Some of these stories take the biggest of pictures and tell us the story of their life journey. Others describe the specific moment they learnt the singular importance of a vital fact. We have stories from scientists telling the precise moments in their childhoods that made them who they are, and those who told of how their childhood dream turned out to be the last thing they wanted to do.

Here is the story from Dr Leanna Smith, University of Toronto. Leanna describes how a perilous journey into higher education has, decades later, inspired contributions to STEM outreach and mentorship initiatives.

## Tales from the Lab

### **Dr Leanna Smith, University of Toronto**

Only 3 or 4 minutes remained. Sitting alone at home, I feverishly checked and re-checked my UCAS personal statement for spelling errors, grammatical errors... any kind of error that could suggest a lack of serious interest or competence. How did I get into this ridiculous situation? How could I be so incredibly unprepared?

For decades I had enthusiastically answered questions (albeit, rarely correctly) in class, attending weekend outreach events at the local university, grasping at every extracurricular STEM opportunity with both hands, going above and beyond to satisfy my thirst for scientific knowledge. Now, I was sitting here about to throw it all away through lack of preparation, research and understanding.

Tick. Tick. Tick.

Feelings of regret, frustration and hesitation washed over me again and again. I started to question myself, did I approach this in the completely wrong way? Is there some kind of secret hack or fool-proof method to impress the university admissions office? Do my friends and peers know something I don't?

Tick. Tick. Tick. 17:58. Two minutes till the deadline. I give it one last check.

The words started blurring across the computer monitor. Words merging into sentences merging into paragraphs merging into headings merging into subheadings. 17:59. Seconds left; Now or never, I finally click submit. There! Done it! Not relief or triumph, but dread. Just a sinking feeling...

12 months later, Autumn 2009. To my great relief and in spite of these shortcomings, I had been offered a university place and was studying for a bachelor's degree in biochemistry. I'm hunkering down in the library's downstairs cafeteria between lectures. Hobbling together a lab report due for submission later in the week whilst sipping a thermos of scalding hot green tea. A soft, faint hum from the vending machines echoed across the library ground floor. Students bustled in and out between rooms, enthusiastically discussing plans for the weekend. Outside, towering streetlights flooded pockets of space with intense, artificial light whilst moths and gnats danced chaotically overhead.

"What's this?" Something caught the corner of my eye. Pamphlets lay strewn haphazardly across the tables, barely acknowledged by those passing by. "Outreach and Widening Participation" – "Flexible, Part-Time Opportunities". The flyer catches my interest, 'this looks interesting', I thought. A great way to earn some extra money for the summer break, perhaps? Maybe an opportunity to develop transferable skills beyond my degree programme whilst giving back to the local community? I stashed the leaflet into the bottom of my backpack and half-sprinted out of the library towards the Life Sciences block for the afternoon's lab session.

Thanks to the leaflet and advertised outreach opportunity, I found myself spending my Summer as a Student Associate at a local high school. I was tasked with providing extra support within STEM classes, assisting with student access, and help them understand higher education.

I sat in a classroom, much like I had when preparing my own UCAS statement, high school students enthusiastically poured over worksheets and notebooks, discussing ideas and solutions to the challenge at hand. Everything was relaxed, the classroom was working

well. Then a student enthusiastically chimed in with “I’ve always been interested in a career as a research technician, or maybe a nurse..?” looking at me, the university student, to have something useful to add.

Silence. Panic. Dread. Do I respond? What should I say?

Although I’d successfully secured a university place, how could I possibly support young people taking the potentially perilous road to STEM higher education? I’d barely made it through the application process intact. And despite now being at university, I didn’t really understand what higher education was about, it was just something I was doing.

“Sounds great”. The only response I could muster.

A few seconds of awkward silence followed, before heads dropped down again and we re-engaged the worksheets that lay in front of us. The focus shifted back to the lesson, back to the worksheets and task at hand.

That evening, I sat at home, drafting entries into my reflective log for assessment, as required for my participation in the Student Associate scheme.

What could I write? How did I meaningfully contribute to their understanding of university applications and access? What could I improve in advance of my next discussion about university education? Questions lingered over and over in my mind. I doubted myself, someone with more knowledge, expertise and success would be better suited to this role, I thought.

Five years later I was in the thick of an intensely challenging and all-consuming biochemistry PhD research project. Working late into the night to finish my experiments, before stumbling back to my student accommodation through the streets of Leicester. My head briefly hit the pillow before my alarm pierced abruptly through the dead of morning. A faint summer glow radiates across the summer sky as birds bustle overhead. I head back to the lab where my limbs engage in a frantic, almost ritualistic choreography of pipetting, typing, pushing, pulling, pouring, filtering.

In a brief break from the daily grind of lab work I sit down and check my emails. A small glimmer of respite, a palette cleanser for a tedious and tricky experiment ahead. “Mentorship – Opportunities”. The circular detailed a voluntary, online role in assisting high school students with accessing university education

and exploring STEM careers. An opportunity to make a difference, perhaps? A chance to finally impart my experience and understanding to help others? A redemption story for my previous less-than-excellent Student Associate position?

I go to reply, and flashback. I’m 17 again. Frantically typing a sub-par personal statement, with barely an understanding of university education or STEM degrees or UCAS applications or anything vaguely related. The same feeling again. Not relief or triumph, but dread. A sinking feeling. Or this time, perhaps...an opportunity? I ping back a cautious but enthusiastic reply.

Now in July 2021, and I’m sitting in front of my laptop on a balmy, humid summer evening. Employed as a postdoctoral researcher at the local university. My inbox pings with a notification – it’s a new email from my mentee, including a list of enthusiastic questions. “What’s your current profession? How did you decide your degree at university and career path? What challenges did you face? How did you overcome it?” I inhale deeply, closing my eyes briefly. I reflect, flexing my fingers until I hear my knuckles crack. This time, I know exactly what to write. Where to signpost, how to inspire, ways to engage. Words into articulate sentences into clear paragraphs into crisp headings into defined subheadings. 17:59. And submit. There. Done it.

You can find more stories on Twitter under the #TalesFromTheLab hash-tag, and on YouTube in the Tales From The Lab playlist. ■

Link: [https://youtube.com/playlist?list=PL8ahVRveq\\_0RJUcMJCqXmhuvaAytOoYk6](https://youtube.com/playlist?list=PL8ahVRveq_0RJUcMJCqXmhuvaAytOoYk6)

QR Code:

