

# Learning from the Best

“What makes a specific area attractive for you to live in?” asked my mother-in-law on a weekend during my research Secondment visit to central Pennsylvania, USA.

“A choice of a few good, laptop-friendly coffee shops is definitely an important asset to us.” my wife and I replied.

“For me, it is the sense of belonging.” added my mother in law.

And so, sitting tranquilly in that hip Pittsburgh Breakfast and Brunch, I started reflecting on the path that got me here in the first place: 9420 km away from Byblos, the Mediterranean city where I was born and raised.

The journey began on a summer day in July 2014, after an interview at the University of Leicester, under the INTREPID Forensics Programme, that led to both new beginnings and the most coherent continuation of my professional life. I started my PhD with INTREPID Forensics in January 2015 and am now in my third year of DNA analysis from samples subjected to explosions, heat and other extreme conditions. As morose as this may sound, my position allows me to train and do research anywhere in the world for a period of three months – referred to as a secondment – as long as the institution I apply to reciprocates my interest. I was initially excited to explore the American way of academic research, and while attending the first Genetics in Forensics Congress in London in 2016, I was drawn to Dr Mitchell Holland’s talk about mitochondrial DNA damage. When I approached him to discuss my ambition of doing my secondment in his laboratory, I felt that he was the right connection. And man was I right.

He said, “This seems promising. Start by developing a plan of what you exactly want to do during your visit, and we will see from there”.

I quickly wrote my proposal and had a few Skype meetings with him and his team. Today, I am here, in the forensic DNA laboratory at Pennsylvania State



University (PSU), working with Dr Holland on burned bones and biological samples that we have detonated using high military grade explosives. My questions are: what happens to DNA in these circumstances? And how can we analyse it best for identification purposes?

Before I got here, I knew that Dr Holland was a prominent forensic scientist who worked for ten years in the Armed Forces DNA Identification Laboratory (AFDIL), publishing fundamentals in the field, and leading the teams that identified 1st Lt Michael Blassie, the Russian Tsar Nicholas Romanov, and many other skeletal remains from mass graves around the world. However, it wasn’t until later through casual conversation that I learned about his senior role in the identification of thousands of the 9/11 victims, together with his wife Dr Charity Holland; and this from the most extremely degraded human remains.

My first activities at PSU revolved around visiting the magical campus, and getting acquainted with my new team at PSU forensic DNA. The lab conformation and standards were smartly organised into an efficient research and error-proof casework environment. The first two presentations that I attended were about the challenge of DNA analysis from skeletons and human hair. I was already ecstatic by then. However, when Dr Holland presented his work in relation to the fight against oppression and

war crimes, I deeply felt like I was truly amongst my allies in the profession. Not only do I owe this team the training and support to conduct a fruitful secondment; they have also opened doors for further cooperation with the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), the Federal Bureau of Investigation (FBI) and Penn State Police’s bomb squad in my experiments involving the use of explosives.

Arriving to my Pennsylvanian adventure was not the easiest feat. I plan to write in the near future about the interesting struggles I faced as a Lebanese forensic scientist who is dedicated to learning from the best in the world, whether in the UK, the USA, or Switzerland, so that one day I am hopefully able to help improving the Criminal Justice and Policing systems in the Levant.

I choke from happiness when I write about my current job. Therefore, I mean to express my utmost gratitude to everyone who supported and challenged my choices in the last few years: my family, my supervisors, my advisors and my colleagues at the University of Leicester. Finally, I reiterate my gratitude to Dr Holland and his team for giving me a sense of personal and professional belonging during this exceptional experience.

*Marwan El Khoury*

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