An Atypical Career Path

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My scientific career has been rather unconventional. After completion of a Masters Degree in Science at the University of Melbourne, Australia, I commenced full-time employment as a research assistant performing electron microscopy to investigate megakaryopoiesis at Australia's largest comprehensive cancer centre, the Peter MacCallum, (often abbreviated to 'Peter Mac'). Although it was always my personal goal to undertake a PhD, it was impractical for me as my priority was to start a family and be a mum. Additionally, back then the grant funding bodies in Australia did not take career disruptions into account. Notably, today the option to provide evidence of a career disruption is an integral component of most Australian grant applications, signifying that gender equity is being taken more seriously. After the birth of twin daughters in 1990, I transitioned to working part-time and continued to work part-time over the next 11 years whilst enjoying being a mum to the twins and two subsequent daughters. In 2001, I re-commenced working full time and accepted a position as head of a

new core facility, the Centre for Advanced Histology and Microscopy (CAHM) at Peter Mac, which was designed to facilitate large-scale collaborations and research. I spent the ensuing years spear-heading the growth of CAHM through competitive grant funding to develop it into a world-class comprehensive suite of four technology platforms: Histology, Optical Microscopy, Electron Microscopy and Image Analysis. However, my ambition to undertake a PhD and pursue my own research projects never waned; on the day my youngest daughter started school in 2005, I enrolled in a PhD to investigate the cellular and molecular profile of the hematopoietic stem cell niche and the process of engraftment, under the supervision of Professor Susie Nilsson.

I enrolled as a part-time PhD candidate so I could continue to earn a salary as Head of CAHM, which was necessary to make ends meet. Being a part-time candidate was only possible due to the support of Peter Mac and being able to delegate some of my workload to my team of dedicated expert staff in CAHM. However, I soon realized that there was nothing part-time about keeping up to date with the literature and working with mice so I joined the long list of ‘guilt-ridden’ mothers and worked 7 long days per week for 5 years, publishing 4 manuscripts during my candidature. My husband was, and still is, extremely supportive and enjoyed spending more time with our daughters during that period. The long hours and challenges associated with completing a PhD helped hone my leadership and organizational skills, build resilience, and improve my networking capabilities.

Since receiving my PhD, I have been fortunate to secure consecutive competitive grants from the National Health and Medical Research Council (NHMRC), Australia’s foremost funding body for medical research. Grant funding in Australia, similar to the rest of the world, has been getting more difficult with success rates for project grants hovering between 13 and 17% (2014-2018). However, this year the NHMRC launched an entirely new grant scheme and we are all anxiously waiting to see if the success rates will start to increase. I have effectively combined my role as head of CAHM with my research investigating the role of polarity proteins in hematopoiesis and leukemogenesis within the Cancer Immunology program. I am often asked how I manage to divide my time between the two areas, but I don’t think I am very different to most researchers who wear two hats, for example, clinician researchers who lead research laboratories whilst working in the clinic, or colleagues at Universities who combine teaching loads with running their laboratories. It all comes down to good time management and organization skills and a willingness to work hard. Realistically, my productivity is never going to equal that of research-dedicated laboratories but the trade-off for me is that my salary is more secure and I get to play with fantastic state-of-the-art microscopes and explore new technologies and methodologies.

As with most research careers, I have experienced a few setbacks, the most significant was when Peter Mac relocated to a new state-of-the art building in 2016. As well as arranging the relocation, de-commissioning and re-commissioning of the high-end equipment in CAHM, all my mouse colonies had to be re-derived. With quadruple transgenic mice, this took much

longer than anticipated. However, I remained positive (mostly) and used this unexpected downtime to become involved in other pursuits such as accepting new roles on committees to help others. For example, I was elected to the University of Melbourne's Alumni council where I led the Mentoring and Careers working group. As part of this role I worked closely with the University's Advancement team to roll out a new mentoring program across the University to facilitate mentoring opportunities for all students. This was very rewarding. In my capacity as head of CAHM, I continued to collaborate with many talented students and post-docs, offering advice, supervision, and assistance with experimental design. The enthusiasm of the students for their research projects is infectious and gives me a buzz.

So what am I doing now? I sit on the board of a number of committees, formally mentor several Peter Mac PhD students and have the privilege of leading my own team. There are 9 expert technical staff in CAHM, whilst my research team comprises 3 students, 1 part-time research assistant, and a post-doctoral scientist. My research team will remain small due to limitations in grant funding but it is a good size for me as it allows me to still do some bench work, which I really enjoy.I am pleased to say that all our mouse colonies are breeding well and we have recommenced our experiments, an exciting time. Now that my children have grown up, I am keen to undertake a sabbatical and live and work overseas, something I wasn't able to do whilst they were little. I enjoy being part of ISEH and am impressed by how friendly everyone is at the annual conference; even senior laboratory heads of international acclaim are willing to engage with more junior scientists. I began my involvement with ISEH as a member of the New Investigator committee, then the Board of Directors and am currently the Treasurer on the Executive committee. Being actively involved in ISEH is a rewarding experience both professionally and socially and it is interesting to learn about the 'behind-the-scenes' operations that underpin the Society. I have developed good friendships and feel well connected scientifically. Thank-you to the New Investigator committee for allowing me to share my unconventional research career story, I hope I have inspired readers who are not able to follow a traditional research career path to challenge dogma and commence their own unique journey on the pathway to a career in scientific research.

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