

*Describe your key motivators for applying for this role, what excites you about joining the University of Sydney*

**□ Why Sydney?**

My career in science has always been driven by curiosity about nature, eagerness to share what I have learned, and enthusiasm to train others to investigate the world around them. These ideas can be translated into a professional context as the desire to do world-class research, the motivation to teach the next generation, and the will to build a globally recognised research group. Together, these themes form the motivation for my application to be a Lecturer at the University of Sydney. There is no other university better suited to leverage my unique abilities as a researcher, educator and mentor, and none with greater opportunities and better undergraduates in a more exciting city. Below I outline my vision for joining the University of Sydney.

**□ Building a Research Group**

Building a research program comes with the thrilling prospect of supervising Honours, Master's, and PhD students, and I am very keen to support students and early career scientists in my lab. My experiences from working in large and engaged labs is that students learn a tremendous amount from their lab community, sharing knowledge, collaborating, and supporting one another. My own career has benefited greatly from being surrounded by other clever and creative students and postdocs who have become some of my most productive collaborators and closest friends. I feel that it is important to nurture the excitement of budding scientists by providing a positive and engaging experience that encourages students to think independently and take ownership of their own research.

By living and studying across three continents, I have a strong network of collaborators and an extended reach to aid in recruiting students and research funding. I also have a different background and set of experiences that should complement the existing academic staff. My path to becoming a research scientist and academic has been far from direct, traversing jobs in field ecology and running footwear, but this adventure has given me an ability to connect with a broad cross-section of society. And while I would never expect every trainee I work with to become an evolutionary biologist, I can promise them valuable skills in biology and genetics, persuasive writing, an ability to think quantitatively, and a level of computer literacy that together will be beneficial for any profession that interests them.

**□ Training and Teaching**

Teaching and mentoring the next generation of students is essential to build a society of critical thinkers and creative problem solvers. This includes students that will go on to careers in science and a host of other fields. I enjoy teaching and learning alongside students because I find it easy to engage naturally and see my own enthusiasm reflected in their learning. As a Master's student I was a teaching assistant for all three years, including voluntarily in my second and third years (I was supported by a fellowship and external funding). I honed my skills in introductory biology lab courses, learned to develop and implement my own grading scheme teaching evolution, and practiced lecturing and course organization in comparative vertebrate anatomy. I enjoyed the "right of passage" that is teaching introductory biology because of the broad cross-section of student backgrounds and interests, and the freedom to design my own lab experiences and assessments. Upper level classes like evolution and comparative anatomy offered the opportunity for a more conversational approach, and I was able to integrate more varied readings to accompany the classes, and a more creative narrative to the semester long course. At the University of Sydney

I would be excited to teach courses oriented towards evolution, genetics, and ecology, as these are disciplines I am deeply familiar with. For example, I would be comfortable teaching parts or all of introductory courses such as From Molecules to Ecosystems, Life and Evolution, and Zoology. I would also be thrilled to teach higher level courses such as Evolutionary Biology, Australian Wildlife Biology, and Evolution of the Australian Biota. It is exciting to imagine the chance to adapt and build on these courses and add my unique flavour to the curricula. If the opportunity arose, I would also love to design my own course. Given existing expertise in SOLES, and my own background, a course such as Macroecology/evolution or Data Science in Biology seem complementary to existing offerings. Regardless of the topic, I feel strongly that students should be provided a good foundation in quantitative skills to accompany their anticipated writing abilities. Many careers nowadays rely on having some experience with programming languages, and so I highly encourage teaching and learning basics of common languages such as Python and R.

#### □ An Unparalleled Platform

The macroevolutionary questions I ask and empirical systems I study are easy to communicate because the questions are intuitive and the systems are familiar. The University of Sydney is an eminently visible institution with a broad public reach. I would relish the opportunity to use this network—amplified by relationships with other Sydney and Australian institutions—to share my findings far and wide. I believe that one of the most valuable things we can do as scientists is public engagement and outreach. If our science fails to be effectively communicated to a broad audience, its value is severely restricted, and both the scientific community and the public suffer. Over five years in Canberra, I volunteered to speak in more than a dozen classrooms talking about careers in science, climate change, and the evolution of Australia’s unique vertebrate fauna. To expand the audience of my scholarly research, I have worked alongside ANU and the NHM’s media departments to create individualized media releases to accompany our publications. Each paper provides an additional chance to draw attention to cool science in the news. This has helped our research to be featured in national and international print media (ABC, Canberra Times, IFL Science, New Scientist) and the radio (ABC News), and increase the visibility of our work. Along with our research and media releases, I illustrate and animate short videos that present our findings in a visually engaging way, and these have helped to garner thousands of additional views of our papers. To encourage attendance at ANU’s PhD Seminar Series, I designed and drew seminar posters to advertise the talks. These posters help to highlight the amazing research being undertaken by ANU’s early career researchers, and integrate art and science in a natural way. As the beating cultural heart of Australia, Sydney presents opportunities to build relationships with industry and arts organisations that do not exist elsewhere. These roles do not need to be exclusively academic, and might instead engage community and alumni, or strengthen existing bonds with local businesses.

#### □ Funding My Research

To continue my exciting research I have plans to apply for grants under a number of funding sources. I have developed applications for both ARC DECRA and Discovery EOI streams that will be submitted in the next available rounds. I also anticipate building funding proposals for the Hermon-Slade Foundation and the Australian Biological Resources Study (ABRS). I also look forward to the opportunity to synthesise grant and research ideas with other members of SOLES. The focus of much of my research to date has been blue-sky science, however, I am increasingly interested in the applied elements of biodiversity, genomics, and conservation research. These broadening interests will make new funding sources available, and I intend to leverage those opportunities through ARC Linkage and local, state, and federal government. As an example of these goals, I have recently been

awarded funding to generate reference genomic resources for two endangered Australian monitor lizards under the Threatened Species Initiative. These data will provide critical infrastructure for proposed conservation genomic and genome evolution studies, and are indicative of my ability to successfully branch out into new research directions.

□ **Collaboration: Complementing Excellence**

When we look across the animal kingdom we notice an incredible diversity of species in myriad forms. Big creatures and small creatures, colorful and drab, found across land, sea and air. I have made a career out of asking how this diversity has come to be, how we can link these species through relatedness, and what dictates its imbalances. The University of Sydney's School of Life and Environmental Science has an incredibly strong body of faculty researchers that cover diverse fields from behavioural ecology to molecular evolution and beyond. I believe my interests in empirical phylogenomics, macroevolution, and population genetics complement existing specialties. As a student, reading papers on molecular clocks by Prof. Simon Ho and reproductive evolution by Assoc. Prof. Camilla Whittington helped to form some of my own research ideas. The opportunity to work alongside and collaborate with these creative scientists and the many other SOLES faculty would be a dream. While I excel in knowledge of empirical Australian systems, my strong quantitative background and experience in comparative methods will likely benefit other research programs in SOLES. Departments which see regular collaboration between colleagues make for a more energised and convivial environment, and my enthusiasm, knowledge, and collegiality would contribute to a positive workplace culture.