Personal Statement

➢ Content

- **Why do I want to pursue a PhD abroad?**
- **Educational Background**
- **Academic achievements**
- **Experiences in research**
- **Future Perspective**

The following content allows you to know about my entire learning career and understand what kind of person I am.

Why do I want to pursue a PhD abroad?

Combining my research topic, which focuses on the neurobiology of fruit flies, I aim to explore the changes in neurons and receptors in relation to the toxicity of traditional Chinese medicine. I am acutely aware of my limitations in this field and, when encountering bottlenecks, I have resorted to reviewing literature and attending lectures. During my graduate studies, I participated online in all the Science series lectures and attended many international academic conferences.Subsequently, I read some books such as *RNA Biology: An Introduction* and *RNA: Life's Indispensable Molecule*. I've discovered that RNA is my favored area of research. The fields it encompasses and its applications are truly fascinating. I'm eager to explore this direction instead of continuing with the research area of my master's degree.

Regarding my future plans, I am determined to pursue a PhD, which has always been my dream. I want to study abroad to engage with students and professors who are passionate about research and have a pure and kind-hearted approach to science. Simply put, I want to "think like a kid" and conduct research with the innocence and curiosity of a child—driven purely by interest. I genuinely wish to join a laboratory with a strong academic atmosphere where I can quietly and diligently focus on research. In the future, I plan to dedicate at least 10 years to a career in scientific research.

Academic achievements

More details in the CV

Experiences in research

During my undergraduate studies, I conducted experimental learning in Professor Qin Xuping's laboratory at The University of south China, focusing on network pharmacology. I produced one English article (not submitted) and one review article (not submitted). During my time in the laboratory, I was exposed to various research training experiences, which helped me develop a certain level of research thinking. I

also published network pharmacology teaching videos on Bilibili(https://b23.tv/sLrDFNu), gaining over 15,000 followers and more than 900,000 total views. I gathered undergraduate and graduate students from various universities to establish the Zhixue Network Pharmacology Team, which currently shares popular science content on Bilibili, Zhihu, and WeChat official accounts.

Graduate Studies (Phase One): After completing my studies in Advanced Molecular Biology and gaining a new understanding of DNA and RNA (scoring 96 out of 100), I developed a fondness for the field of molecular biology. I self-recommended to join Professor Zhang Rongxin's research group, which work on RNA research at Guangdong Pharmaceutical University, where I participated in molecular biology experiments.

Graduate Studies (Phase Two): I am currently working in the Anti-radiation Drug and Traditional Chinese Medicine Pharmacology Laboratory under Professor Gao Yue at the Beijing Institute of Radiation Medicine. My current project investigates the relationship between *Vibrio fischeri*, fruit flies, and traditional Chinese medicine, with two doctoral students and I each responsible for different aspects of a National Natural Science Foundation project.

I have mastered relevant animal experimentation techniques, including organ collection, water maze tests, mining experiments, and small animal cardiac ultrasound. I am also proficient in using various instruments such as microplate readers, fluorescence microscopes, in vivo imaging systems, fully automated Western blotting, and fully automated RNA extraction equipment. I have gained hands-on experience with the extraction of traditional Chinese medicine, as well as techniques such as Western blotting, BCA assays, Co-IP, ELISA, and PCR.

I am confident in my knowledge of fruit fly experiments, including avoidance tests, two-way choice feeding, traps, and Y-shaped maze tests. I am one of the most knowledgeable members in my research group regarding fruit fly studies (being the first in the group, I have had to explore many aspects independently). I also have a solid foundation in Mendelian randomization, network pharmacology, molecular docking and dynamics simulations, and computer-aided drug design. For details on my supplies, please refer to my CV and invention patents.

Future Perspective

I am aware that my research during my master's degree differs from that of your research group, but I am proficient in molecular biology techniques such as Co-IP, Western blotting, and qPCR. I believe that experimental skills can be acquired within a reasonable timeframe, so this is not an issue. Additionally, while my research focus may not perfectly align with yours, I am willing to start anew. Coupled with my foundational knowledge and passion for the field, this too is not a concern.

My primary interest lies in RNA research because I am passionate about the field of molecular biology. Secondly, I aim to delve into a challenging and unique area during my PhD, which will be advantageous for my future career as a Principal Investigator, allowing me to conduct cutting-edge interdisciplinary research. Finally, I am an energetic individual who finds it difficult to stay idle, and I come from a rural background. So I cherish the opportunity to study that I have now, and regardless of the challenges that lie ahead, I am determined to achieve my goals.