

Graduate Research Opportunities in the Xie Lab

Pursuing a graduate degree, especially a doctoral degree, is a substantial commitment; choosing the right lab that serves mutual interests is one of the most important steps in this journey. At *Texas Tech University* (TTU), the graduate program in *Biology* does not currently offer a rotation system. This makes open and effective communication between prospective applicants and potential mentors especially critical for making informed decisions. The purpose of this *guide* is to facilitate such communication regarding research interests and expectations.

About the Lab

Research in our laboratory centers on the **biology of small RNAs (sRNAs) in plants**. We investigate both the molecular and cellular mechanisms, as well as the evolutionary dynamics of sRNA-directed regulatory processes. Using diverse plant species, including *Arabidopsis thaliana*, cotton (*Gossypium* spp.), and sorghum (*Sorghum bicolor*), we study *how genetically diverse sRNA pathways regulate plant development, defense, and environmental adaptation*.

Joining the Lab

We welcome prospective students who are passionate about *plant molecular biology* and genuinely interested in sRNA research. Successful applicants often demonstrate some of the following qualities:

1. Attention to detail in observations, note-taking, and data management.
2. Strong communication skills, both written and verbal.
3. A solid understanding of *basic* cell and molecular biology.

Additionally, skills in programming and computational biology (e.g., *Python*) are a plus.

Before You Apply

Prospective applicants are encouraged to contact **Dr. Zhixin Xie** (zhixin.xie@ttu.edu) *before* submitting a formal application to the TTU Graduate School. Please include:

- A résumé (with *English* proficiency test scores, if applicable).
- A brief statement of research interests.

For individuals with a strong match in background and interest, a virtual meeting will usually follow to further discuss the fit and expectations.

Important Reminder

Your formal application must include a **Goals Statement** that conveys your genuine interest and understanding of our lab's research. We strongly encourage you to explore our published works and reflect on how your own interests connect with them. Rather than simply stating that your research interests “perfectly align” with ours (a cliché we often encounter), provide a thoughtful account of *why* sRNA biology excites you and how our lab could help you achieve your career goals.