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TEXAS A&M UNIVERSITY

COLLEGE OF AGRICULTURE
AND LIFE SCIENCES
Department of Biochemistry and Biophysics

Two to three postdoctoral positions

Department of Biochemistry and Biophysics & Institute of Plant Genomics and Biotechnology, Texas A & M University, College Station, TX 77843

Two to three postdoctoral positions are immediately available (or starting within the next 6 months) to study RNA silencing in plants. One position focuses on biological functions and molecular events of RNA-induced silencing complexes (RISCs) in Arabidopsis. We have recently found that AGO10 specifically, and almost exclusively, sequesters a single miRNA class, miR166, to preclude miR166 from functioning in the canonical AGO1-mediated pathway for inhibition of gene expression (Zhu, et al., 2011. Cell. 145:242-256; Zhang and Zhang, 2012. Curr Opin Plant Biol.15(6):652-8). We are interested in further exploring the fundamental mechanisms for this interesting observation. The second position involves biochemical mechanisms of miRNA biogenesis in Arabidopsis. Our efforts to characterize miR166 overexpression and mutants with deregulated functions led us to expand our research into broader areas of miRNA biogenesis. We have observed many intriguing phenomena and would like to study novel biochemical mechanisms of miRNA processing in Arabidopsis (Zhu, et al., Submitted). The third position addresses host/virus interaction. Plants take advantage of RNA silencing to defend themselves from exogenous nucleic acid invaders (i.e. viruses). As an anti-host defense mechanism, viruses encode suppressors that can block RNA silencing responses. We have recently discovered that geminivirus-encoded proteins genetically interfere with a pathway of transcriptional gene silencing. We are interested in systemically studying the molecular and biochemical mechanism of host/virus interaction at an epigenetic level.

Applicants process a fresh Ph.D. degree with strong background in genetics, and/ or biochemistry, molecular biology, or virology. Candidates should be highly motivated and possess creativity, initiative and excellent oral and writing ability in English. Knowledge in plant development or expertise in genetic screening is advantageous for one position whereas research experience in virus is a plus for the position in host-virus interaction. The initial appointments are for 2-3 years and the renewals are highly possible, depending on the performance of the individuals and mutual agreement. Salary will be competitive and commensurate with experience. Interested applicants should send a CV, brief summary of research experience, and contact information for at least two references by email to Xiuren Zhang at xiuren.zhang@tamu.edu.

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