# RAMA DEVI WOMEN'S UNIVERSITY

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**PROJECT TITLE:** Delineating the small RNA networks associated with host resistance and pathogenesis of basal rot fungus *Fusarium oxysporum* f.sp *cepae* in *Allium cepa* L.


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**PROJECT SUMMARY:**

Onions are grown in virtually every country in the world and have a production value of USD 24.6 million. However, considerable yield losses occur due because of *Fusarium* basal rot caused by *Fusarium oxysporum* f. sp. *cepae* (Foc) accounting for 60% of yield losses at pre- and postharvest stages in India. There is no perfect strategy for control or cure of this disease because the mechanism underlining FBR incidence is not clear yet. Multitude of regulatory small RNAs (sRNAs) play crucial roles in plant-microbe interactions. However, sRNAs responsive to fungal attack remains poorly understood, whereas practically no information exists on their role in onion-Foc interaction. In the proposed study, we aim to identify and functionally characterize the onion and Foc sRNA pathways through a dual sRNA-Seq analysis and attempted inhibition of functions. Better understanding of sRNA networks will aid in the development of efficient strategies to mitigate the threat of agrarian crisis in India.