

## Brief statement\_Vasu Kuraparthi\_ICGI-2017

Dr. Vasu Kuraparthi is Associate Professor of Crop & Soil Sciences Department, North Carolina State University (NCSU), Raleigh, NC, USA. He directs the cotton genetics and breeding program with an overall goal to improve cotton productivity and sustainability in cotton production. Towards this goal, Dr. Kuraparthi leads projects that help understand the molecular genetic basis of fundamental biological processes in plant biology, and also uses genetic and genomic tools to broaden the genetic base of cotton. In collaboration with other researchers, his program developed a translational genetics pipeline in cotton that uses powerful mapping populations, diversity panels, genome sequences, molecular biology assays, phenotyping and genotyping technologies to decipher the gene function and structure and trait discovery in cotton. His lab has elucidated the genetic architecture of major leaf shapes of cotton using positional cloning, which not only help understand the genetic basis of leaf shape diversity but can also lead to the development of superior cotton cultivars with ideal leaf shapes. Dr. Kuraparthi is leading the elite Nested Association Mapping (NAM) effort in cotton in order to connect the phenotype of the agronomic traits with genotype to expedite the cultivar development using genomic and marker assisted selection. His program has identified a major gene controlling photoperiod response in cotton. He is also leading a major effort to establish the genetic architecture of flowering time, fiber quality and yield in cotton using structural and functional genomic analyses. Dr. Kuraparthi is an active collaborator in re-sequencing upland cotton accessions and identification of the resistance genes for bacterial leaf blight in cotton. Dr. Kuraparthi is an associate editor of journals *The Plant Genome* and *Crop Science*. He also serves as a contributing member in committees and professional organizations relating to crop science and plant genomics research and development.