Structural Genomics Workgroup Co-Chair Candidate

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The rapid advancement of genome sequencing technologies has provided unprecedented opportunities for understanding the structural organization and functional elements of cotton genomes. Structural genomics, with its focus on deciphering the physical architecture of genomes, gene regulatory networks, and the three-dimensional organization of chromatin, plays a pivotal role in unraveling the complex genetic mechanisms underlying agronomic traits. I have long been dedicated to the discovery and functional analysis of key genes in cotton, particularly in the context of genome structure and its impact on traits such as fiber development and disease resistance. I am eager to contribute my expertise to the Structural Genomics Workgroup within the ICGI community in the next cycle.

My research focuses on the identification, structural analysis and functional characterization of superior genes in cotton, with a strong emphasis on understanding how genome structure influences gene expression and trait regulation. I have systematically elucidated the molecular mechanisms of several key genes (e.g., *GhLMM*, *GhLTP4*, *GhGlu18*, *GhRabA4c*, *GhCOBL9*, and *GhNAC2*) in regulating important agronomic traits, including fiber quality and Verticillium wilt resistance. My work has been published in renowned international journals such as *Plant Physiology*, *Plant Journal*, and *Journal of Experimental Botany*, with a total of 27 publications, including 13 as first or co-first author. Additionally, I have filed 7 patent applications (2 granted), obtained 7 plant variety rights, and developed 1 new cotton variety.

In the context of structural genomics, my research has provided insights into the genomic regions and structural variations associated with key traits, leveraging high-throughput sequencing and bioinformatics tools to analyze genome architecture. I believe that my experience in integrating genomic data with functional studies positions me well to contribute to the Structural Genomics Workgroup. I am committed to fostering collaboration and innovation within the ICGI community, particularly in promoting interdisciplinary research, facilitating data sharing, and supporting the development of new tools and resources for the structural genomics community.