

## **CUGI: A RESOURCE FOR GENOMICS AND BIOINFORMATICS**

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Genetics, genomics, and bioinformatics are entering a new technology phase. The explosive trend in DNA sequencing technologies is transforming the way scientists collect and measure an individual's genetic background (plant or animal) and gene dynamics, while bioinformatics and super-computing are merging to facilitate parallel sample computation and interpretation at unprecedented speeds. Organismal sequences are being collected at remarkable rates, but the resulting assemblies are typically highly fragmented and unordered. The Clemson University Genomics Institute provides a rich source of techniques and applications for genome refinement and enablement, and several examples will be discussed with applications to the simple diploid genome (*Theobroma cacao*) in search of pod color traits to the complex tetraploid genome of *Gossypium hirsutum*.