



## ***ABSTRACT***

*“Polyploid genomes: where are they and where are they going?”*

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Genome duplications are recognised as a key driver in evolution and are understood to have occurred in the history of nearly all flowering plants, providing a template from which greater adaptability can be established. While some polyploid species have developed stable inheritance patterns, as is the case in wheat and brassica, inheritance in other species such as sugarcane remains complicated. Recent developments in genomics and sequencing are enabling the investigation of polyploid evolution, particularly in stable polyploids. However many analysis frameworks still rely on methodology and statistics developed with diploid species in mind. I will present some of my work to develop new approaches to investigate the state of polyploid genomes, namely inheritance patterns in high ploidy species, and the principles acting in the process of diploidisation.