

# Plant Genomics

July 14-15, 2016 Brisbane, Australia

## Plant response to biotic stress: Insights from transcriptomics and structural genomics

\$ Q D 0 D U L D % H Q N R , V H S S R Q  
Universidade Federal de Pernambuco, Brazil

The comprehension of the plant response to pathogen attack is essential for the development of strategies to improve resistance and diminish yield losses. Besides the desired resistance, the crosstalk between plant reaction to biotic and abiotic stresses is a central question, especially considering the predicted global warming scenario. In this regard, the use of strategies involving omics analysis and bioinformatics can bring interesting evidence, useful for molecular breeding, crop selection and generation of genetically modified plants. Our group has been studying key gene families associated to plant defense in different plant groups including crops (e.g., cowpea, soybean, castor bean, grape, etc.) and medicinal plants with a focus on the families Euphorbiaceae, Fabaceae and Cucurbitaceae, using transcriptomics (RNA-Seq, RT-qPCR, transgenesis) and bioinformatics approaches. Gene families studied include R (Resistance), PR (Pathogen Related), TF (Transcription Factors) and Kinases, evaluated under biotic (pathogen inoculation) and abiotic (water deficit and salinity) stresses. Besides the expression profiling, aspects of gene and protein structure and genomic evolution have been analyzed. In case of resistant or tolerant plants (depending on the stress type), a constitutive or earlier induction of given genes has been recognized, indicating that the early stress perception and the precocious induction of other stress associated genes is a key defense mechanism. Particularly for some TF, PR and Kinase genes, a dual role in response to conclude R o[(o)12-6(m)

Notes: