



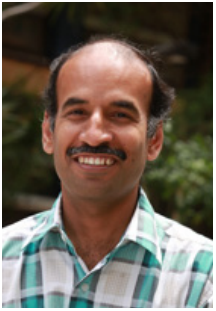
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## Natural variation: mechanisms to translational biology. Plant Biology Seminar Series

Wednesday 22 August 2012 1pm

**Associate Professor Sureshkumar Balasubramanian** School of Biological Sciences, Monash University

**Slatyer Seminar room** R N Robertson Building, Research School of Biology, ANU



SKB lab ([www.skblab.org](http://www.skblab.org)) is interested in understanding the genetic and molecular mechanisms regulating phenotypic variation. Specifically, we are interested in the phenotypic variation expressed due to variation in environmental conditions. At present the lab is working on two major questions. We are keen to decipher the molecular mechanisms through which plants sense and respond to changes in temperature. In order to address this, we have three different approaches. First, we are using mutants impaired in thermal response to identify genes associated with temperature response in plants. Second, we are exploiting natural variation in *Arabidopsis thaliana* to study genes that confer variation in thermal response. Third, we are looking at genomic response to temperature in plants. Our progress on these topics will be discussed.

The second aspect of the lab stems from our recent discovery of a triplet repeat expansion associated genetic defect in one of the strains of *Arabidopsis thaliana*. Given that this is the only example of a natural triplet repeat expansion associated genetic defect described outside humans, we are exploiting this system to study fundamental aspects of repeat expansions. In addition, we are carrying out a chemical genetic screen to identify small molecules that compensate for the negative effects of expanded repeats. In parallel, we are developing assays to test the effects of these small molecules in the human cell lines from patients suffering from repeat expansion diseases.



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