

## Prakash Lakshmanan

Program Leader

**Molecular Breeding, CRC SIIB**

Prakash's interest in science was triggered by the successful scientists in his family, his talented school teachers and his curiosity to know how things worked.

Prakash followed a preoccupation with plant science at school by a BSc major in plant Science from India's Kerala University. A Masters in plant physiology at the Maharaja Sayajirao University of Baroda, India in the '80s introduced him to plant biotechnology, and his PhD was on salinity tolerance and water relations in rice.

Prakash heads the Molecular Breeding Program at BSES Limited and the Environmental Sustainability sub-program in the CRC SIIB. He has a serious passion for crop improvement research from the fundamental science concept to the applied commercial outcome. He feels he has been quite fortunate at BSES to be involved in both as well as a large network of crop scientists.



His role at BSES is to lead the development and delivery of genetically modified (GM) sugarcane, apply new DNA technologies to improve conventional breeding and develop and implement low-cost ways to rapidly propagate new cultivars. He hopes to improve yield using plants that grow and adapt better to the environment. In particular, his team is working on modifying the sugar crop cycle – to extend the harvest season and increase mill operating efficiency. In the CRC, he is looking at developing GM technologies and enhancing environmental sustainability, particularly in relation to improving crop nitrogen use efficiency.

### **Important transformational change**

Prakash gets a real buzz out of developing new things that have a significant impact in the sugarcane industry.

He would like to make a transformational change to the sugar industry by developing GM sugarcane. The CRC SIIB support in driving that is quite substantial. He is also working towards developing sugarcane adapted to hotter weather and which better uses available nitrogen and water – especially in the light of climate change.

Prakash feels fortunate to thoroughly enjoy the research he does and have significant professional involvement in scientific community, especially his editorial responsibilities.

Currently, he is on the editorial board of two international plant biotechnology journals, *Plant Cell Reports* and *In vitro Plant Cellular and Developmental Biology*.



### **Early research career**

Prakash started his career as a biotechnologist with a first generation plant biotechnology company, Thehans Laboratories, in Singapore. His role was to develop new varieties of horticultural/ ornamental plants, especially aquatics.

He worked there for over two years and it really threw him into the commercial world of biotechnology and helped him understand the challenges of commercial research. From there, he took a faculty appointment in the Department of Botany at the National University of Singapore and worked for seven years before he and his family moved to Australia in 1998.



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