

# Genomics

Genomics has given a new lease of life to areas like, agriculture, healthcare and environment.

Malaysian Genomics Resource Centre (MGRC) is one of the many companies that has been using the applications of genomics in agriculture.



**GameChanger**  
Genomics

## Malaysian Genomics Resource Centre

**M**alaysian Genomics Resource Centre (MGRC) is one of Asia's leading providers of genome sequencing and bioinformatics analysis services via proprietary pipelines that enable the rapid sequencing and analysis of large volumes of next-generation sequence data. MGRC's services and pipelines are designed to rapidly sequence and analyze large volumes of genetic data and extract meaningful biological information for downstream research and development.

The key components of its commercial operations include contract genomics services, sequencing services, and data and access services. Its services and applications have been used extensively in significant projects, including the mapping of the lung cancer genome, and the sequencing and assembly of the oil palm genome. Under contract genomics services, MGRC offers variation analysis of genomes, gene annotation, next-generation reads quality analysis, exome and transcriptome analysis, de novo/reference assembly. These proprietary pipelines are built to rank, filter and analyze reads from all major next-generation sequencing platforms.

MGRC has developed extensive experience in the sequencing and analysis of human, animal and plant genomes, including large, complex de novo genome assembly, for customers in Malaysia and other countries. Today, the company operates one of the largest computational centers for bioinformatics analysis in the region.

MGRC has successfully completed the sequencing and

assembly of the ganoderma boninense fungus genome, which will provide vital information on the ganoderma basal stem-rot (BSR) fungal disease, in association with the Malaysian Government Agency, which is of considerable importance as palm oil industry contributes a major chunk to Malaysia's GDP. Besides, it has successfully completed genomics projects such as the cancer genome sequencing project for Brigham and Women's hospital, Harvard Medical School and the successful assembly of the 1.8 billion base pair oil palm genome for Sime Darby Berhard.

The above success has brought in additional projects to MGRC. It has signed two agreements with the Ministry of Science, Technology and Innovation, Malaysia, for two projects namely: The MyGenome Project – A Malaysian Human Genome Diversity Project, and the Proboscis Genome Project, which are expected to be completed by April 2012.

Motivated by the falling prices of genome sequencing, MGRC plans on offering its services to a wide variety of customers, based on their needs. As genetic screening is capable of deciphering the genetic make-up of an individual, this could perhaps bring a significant impact on the healthcare and lifestyle management.

"Besides the existing contract genomics services, our focus for this year will be to commence our expansion into the consumer market via the provision of genetic screening services to hospitals and other point-of-care facilities. These services will cover whole genome, transcriptome and exome sequencing, and also genetic screening for inherited conditions and diseases, common diseases, and drug reactions," says Mr Robert George Hercus, managing director, MGRC. **BS**