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Dr Raja Mugasimangalam is a technologist turned entrepreneur in the field of genomics. The entrepreneurial spirit in him to start a research-based technology firm for developing new methods in molecular biology led him to set up Genotypic Technology, along with Dr Sudha Rao in 1998. This is one of the first Genomics companies in India to offer customized "one-stop solution" to address complex research questions by applying genomics.

Holding his Masters in Biotechnology from Madurai Kamraj University in 1988 and PhD in Biotechnology in 1994, Dr Raja Mugasimangalam worked at the Weizmann Institute of Science in 1996 as post doctoral researcher in the Human Genome Project. Later, he completed his post doctoral research at Sidney Kimmel Cancer Center, SanDiego, after which he worked as a human genome scientist at the Argonne National Lab till 1998. He then moved on to QBI, Israel, which is one of the first human genome research companies in the world. He gained rich experience by working in companies such as Quark Biotech, which he leveraged to develop methods for constructing microarrays for studying drug toxicity in rat diabetes model.

Recalling the early part of 2000, Dr Mugasimangalam said, "We embarked on a project funded by Astra Zeneca Research Foundation to predict drug binding pockets with only the sequence information and no structure. From there on, be it the first printed microarrays in India in collaboration with Institute of Genomics and Integrative Biology, Delhi or certifications for Genomics services, we have tested and optimized on many such technologies."

Under the guidance and leadership of this scientist turned entrepreneur, the company attained several peaks. Genotypic Technology is an ISO as well as Agilent certified facility. Their bioinformatics team handles huge data sets with complex mandates with relative ease. Genotypic has also become the first certified service provider for Ion Torrent's personal genome machine in India.

Speaking about the challenges, Dr Mugasimangalam said that, "We have no issues in finding the right people to deal with such complex techniques. Our internal training and mentoring ensures they scale up pretty quickly to handle the challenges in genomics. Currently, we can sequence hundreds of microbial genomes or a few human genomes in a week's time.

Analyzing the sequence data and converting it into knowledge is a challenge and our teams are well equipped with the right computation tools and capabilities. The multiple in-house genomics platforms, wet labs and the bioinformatics teams for array design, array analysis, genome informatics and close working conditions allows Genotypic's teams to get the big picture quickly."

"Companies are happy to work closely with Genotypic when it comes to genomics research as we specialize in converting the technologies into real life applications and help them take the technologies beyond standard protocols. Genotypic is now initiating programs for plant genotyping and human diagnostic services, taking genomics directly to the consumer," concludes Dr Mugasimangalam.