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A tribute to father of modern genomics

04 February 2014 | News | By BioSpectrum Bureau

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As a mark of paying tribute to late, two-time Nobel Prize laureate and British Biochemist, Prof Dr Frederick Sanger, Genotypic Technology, a Bangalore-based Genomics service provider, for the first time organized a hands-on workshop on Sanger Sequencing for students, professors and experts from various industries here in Bangalore on February 1, 2014.

Sanger Sequencing has been in existence for more than 20 years and is said to be an out-dated technology, but still used significantly in genome sequencing.

Speaking exclusively to *BioSpectrum* in this regard, Dr K Kannan, professor of Biotechnology at the University School of Biotechnology, GGS Indraprastha University, New Delhi, and chief guest at the workshop who has interacted with Prof Sanger while he was alive, said, "Dr Sanger always spoke about tackling unsolved problems, problems which went untouched by brilliant minds. He always acknowledged people who helped him."

"When I looked at extracellular role of Ubiquitin and the role in haematopoiesis, most people were working on the intracellular role. He inspired me to not to join the bandwagon, and that it is going to be a struggle. He always believed that only dead fish swam with the current and the living ones went against it. That's a powerful message," he further explained.

Dr Raja C Mugasimangalam, founder & CEO, Genotypic Technology, expressed, "I worked in human genome project, both in Israel and US. Many technologies have come and gone. However, Dr Sanger's sequencing is still the standard for validations. We have conducted this workshop to teach students the basics of this technique and its practical applications. It is also a tribute to the legend and we are celebrating his innovation."

"We are trying to connect people and invite them and see our facilities and capabilities. So far we have received great

response. We want to educate people on this technology and how it can be used. We also get a little closer to our potential clients and uses through this workshop," said Dr Venkatesh Krishnamurthy, research director, Genotypic Technology.

Dr Gopalakrishna Ramaswamy, general manager - IBU, Genotypic Technology, opined, "Without his (Dr Sanger) contribution, we never would have had seen the technologies we see in this area. Sadly, he passed away last year. PCR (Polymerase Chain Reaction) and Sanger sequencing is never going to die."

He further stated, "We are always open to collaborations. We always welcome collaborators as long as they are clear in what they want. Collaboration is far important than competition, which kills each other."

Another participant, Dr Praveen Karanth, professor at the Centre for Ecological Sciences, IISc Bangalore, who was also present at the workshop added, "Now everything is about next-generation sequencing (NGS). This seminar is like going back to the basics of Sanger sequencing, though an older technology it cannot be abandoned. There are certain things you cannot do with NGS but can be done with Sanger's technique. This workshop has highlighted and reinforced it."

Dr Rajani Battu, consultant, vitreoretinal services and neuroophthalmology, Narayana Nethralaya, expressed, "I'm a retina specialist. I deal with conditions in retinal dystrophies. Most of these are blinding disorders which are genetic conditions or hereditary. Having a billion population, we do not have good databases containing good information on gene therapy and mutation screening. With this technology, we will be able to access various gene pools and build quality databases and help patients in our country."

Dr Krishna Prasad, COO of QTLomics, a Bangalore-based new start-up and a Genotypic group company, explained the importance of understanding Genomics and its applications. He said, "Today, people are looking for varieties in organisms having basic characters. The moment we carry out sequencing, we know the variants between one plant and another, between one bacteria and another and so on."