The tenure as a visiting scientist at the J.Craig Venter’s institute for advanced training in bioinformatics analysis as well as collaboration on a research project as part of my PhD studies was a life changing experience, professionally and personally.

Professional enrichment and skills acquired

The objectives of the visit were to

1. Bioinformatics analysis of next generation sequencing data (Including 16 S rRNA gene sequencing data, shotgun metagenomic sequence data and viral metagenomic data) generated as part of my research studies on the prophylactic use of antibiotics to prevent post-operative infections.
2. Statistical analysis and preparing the outline for two manuscripts in collaboration with the J.Craig Venter Institute.
3. Possible collaboration on future projects with this pioneer institute in genomics studies.

All the set objectives for the visit have been achieved. In addition to this I had the opportunity to explore different methods for bioinformatics and statistical analysis of next generation sequencing data which has enhanced my skill set as a researcher to a new level.
The training commenced with the analysis of 16 S r RNA gene sequencing data from supragingival and subgingival plaque. In addition to routine taxonomic analysis, I could generate functional predictions from the taxonomical information using a unique approach, which was an additional skill that I acquired. The shotgun metagenomic data from saliva samples as part of my research studies were quality filtered, assembled and analysed. I was given the opportunity to explore the data on my own and develop unique approaches to solve problems which enabled me to feel more confident about my abilities to handle similar situations in the future.

Dr Andres Gomez, to whom I was reporting to at the visiting institution was a great mentor and was extremely patient with never ending queries and interest to try different methods to analyse the same dataset, which eventually led to me having a sound knowledge and command over data analysis rather than being a slave to one method.

The working environment was buzzing with science and I had the freedom to walk over interact and learn from some of the best brains in genomics and discuss ideas. This was the best part of the whole experience, where I learned a lot.

With reference to the set objectives before the visit,

1. Bioinformatics and statistical analysis has been completed for both the manuscripts, figures were generated within the time frame of the visit and a framework for the manuscript was made which will be submitted to a peer reviewed journal by the end of November 2016.

2. Discussions were conducted on collaborations in future projects with the J.Craig Venter Institute (JCVI) and the Faculty of Dentistry the University of Hong Kong.

3. We could achieve collaboration for a worldwide NIH funded project involving JCVI (USA) and five other countries, the proposal for the collaboration has been sent to the principal investigator (Dr Michael George Botelho, My primary supervisor) and we are currently preparing the IRB proposal for this project.
4. Further to this, two more projects were discussed with the institution and joint proposals are being made in collaboration with JCVI for these.

On a professional level, this visit was a giant leap for me as a scientist and researcher where I could interact with the best in the world and learn. I am excited about the future projects, which I am sure will benefit both the institutions.

I am confident about my abilities to assume a leadership role in future projects and be a mentor in this area to future students and be an asset to the faculty and The University of Hong Kong.

Personal enrichment

This was a great opportunity for me to meet people and understand a different culture which enabled me develop good friendships with the people I was working with. My journey from a small town in the southern part of India, and now to working with one of the pioneer institutions in the world in genomics has been a life changing experience. It has changed me personally from a shy hardworking student into a confident leader. The most important lessons that I have learned from this international experience is the value of being confident but humble, and maintaining the quality and integrity of one’s work.