

## "I wanted to do something revolutionary that would benefit mankind"

15 April 2013 | Views | By BioSpectrum Bureau



I, Shubhi Mishra graduated from Netaji Subash Institute of Technology (NSIT) in 2008 with a bachelor of engineering degree in biotechnology. After NSIT, I moved to the US to pursue my MS from Boston University, where I majored in bioinformatics. I am currently working as a subject matter lead with Booz Allen Hamilton, a leading strategy and management consulting firm, at their Washington DC office and is working with scientists and policy makers at the National Institutes of Health where I provide recommendation for adaptive clinical trials and cancer research.

My dad always said that anything in life is defined by the milestones accomplished and by the ability to change another person's life in a good way. Having listened to him while growing up, I was inspired to reach such a milestone, but struggled with the "how to". Back in 2003, I remember reading a page dedicated to the human genome project in *The Hindu* newspaper and how it was going to change the world as we knew it. I was in high school at the time and biology was one of the subject I had taken up in the 12th grade. I didn't understand the fine details but knew that completion of human genome would have a profound effect on the future of medical science.

A few months later, over a cup of tea I was discussing with my parents as to which engineering field should I choose to pursue at NSIT. Like any other pre-engineering student, I wanted to do something revolutionary, something that would benefit the mankind directly. While reviewing my options, I chose biotechnology as a career path since it very closely aligned to my dream of benefiting the real world. And, thus began my journey down the path of biotechnology.

After completing the core engineering classes in the first year, I started digging my heels into the subject matter. I knew I had made the correct decision of choosing biotechnology over other engineering courses when the lectures seemed short and time flew by quickly. After class hours, I started regularly meeting with my professors to formulate a hypothesis. I began with a bold hypothesis concerning a possible treatment for cancer. Fortunately, my professor, Dr AK Dubey and Dr Sonika Bhatnagar proposed that I undertake a more manageable project. We eventually settled on mining the human genome for novel signal transduction receptors, which play a major role in cancer treatment. It was an ambitious project that took over four years to get published in an international scientific journal.

Similar to any other research field, education in the field of biotechnology didn't end on graduating from NSIT. For me it was a just a step into the world of biotechnology. Thus, I decided to pursue masters in bioinformatics, a specialization within biotechnology focused on analysis and implementation. I applied to universities in the United States as at that time bioinformatics field was still developing in India. I was fortunate to be accepted by Boston University, which is ranked amongst top ten bioinformatics universities within US. At Boston University, I gained tremendous amount of knowledge and worked on my master's thesis on identifying homoplasy within the mammalian genome prior to graduating.

I was recruited by Booz Allen Hamilton, a strategy and management consulting firm, during my final semester at Boston varsity. At Booz, I joined the bioinformatics team of 20 people working for various clients such as pharmaceutical companies, hospital enterprises, and non-for-profit organizations. During the past few years, the team has grown to 200 people as a result of upswing in biotechnology and bioinformatics industry. I can personally say that I started by leading a team of two people to what has now become a team of eight bioinformaticians. As we progress into the technology focused future, I believe there will be a greater need for subject matter experts who would have a perfect mix of science and technology. Amongst all the "upcoming" fields, I believe biotechnology is the most promising one since its impact can result in a significant change in future of various industries such as pharmacogenomics, agricultural, and animal biotechnology.