

## There are hardly any opportunities for a generalized bioinformatician

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### "There are hardly any opportunities for a generalized bioinformatician "

*Vibhav Garg, assistant manager, Mascon Life Sciences, has been closely associated with the development of the bioinformatics industry in India since its initial days. He is on the editorial board of a bioinformatics journal and is also a guest faculty at a few educational institutions offering management degree in biotechnology. In a Q&A session, he offers some nuggets of advice to aspiring biotech professionals.*

#### How is the bioinformatics industry in India organized?

The present Indian bioinformatics industry can be broadly divided into four classes: pharma companies having a bioinformatics division; biotechnology companies having a bioinformatics cell; IT companies having a bioinformatics wing; and the pure bioinformatics companies. In the first two cases, the bioinformatics initiatives are aimed at providing solutions and self sufficiency within the company and are captive in nature. Typically in such companies, the core bioinformatics workforce size is small. The last two types of divisions/companies operate on a different business model. They utilize their bioinformatics capabilities to develop third party generic and customized solutions/services for the pharma and biotechnology companies and academic/research institutions involved in biotechnology or allied fields. Since they accept custom-based bioinformatics development/research work from the core biotech and pharma players, their growth is directly proportional to the growth in the biotechnology, pharma and allied business/industry. Such companies are the principle absorbers of a talented bioinformatics workforce.

### What is the groundwork that a student needs to do to enter the bioinformatics field?

From the student's perspective, it is important to decide upon a specific area in bioinformatics which interests him/her and focus on it. Neither is it possible nor wise to "master" the whole bioinformatics arena. Remember that there are hardly any opportunities for a generalized bioinformatician. It is therefore important to zero upon a specific domain like drug design, microarray data analysis and sequence analysis. Then students should try to find out which are the companies operating in that sector. They should endeavor to gather information about their business, try to interpret what they are doing and follow their moves. In short, they should focus and specialize in one area, after acquiring broadbased knowledge in the bioinformatics arena.

### What is your advice to aspiring MBA biotech professionals?

A specialized degree in MBA biotechnology is a new phenomenon. With such a qualification, students should try to develop their own niche and not compete for other generic MBA positions. In the chain of services provided by a pharmaceutical or biotechnology company, they should first analyze where they fit in-information, operations or sales and marketing. They should also find out which companies in the biotech arena would complement/suit their abilities the best.

Second, for a biotech management degree of two years, they should not let their three/four years of undergraduation (UG) studies go unused. Students should leverage the knowledge acquired during the three/four years of UG, which will give them an extra domain-specific advantage in the respective field. All their efforts should be concerted, like, when going for the industrial training program, they should enhance their skill sets, knowledge and expertise in a particular sub segment, in which they would like to work in the future.

Management professionals should start gathering information about the market trends as early as from their second semester onwards. They should be able to appreciate as to what is happening in the industry by taking live examples as case studies and increasing their exposure to current market during their academic life. The lack of overlap of the industry into academia is the biggest lacuna in today's education.

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