

## Remain focused in what you do: Experts advise students

25 September 2013 | News | By Rahul Koul Koul

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It was great display of energy and enthusiasm by more than thousand students who gathered for the BioSpectrum Student Lecture Series (SLS) organized at Jaypee University of Information Technology (JUIT), Solan campus. Coming from various corners of Himachal Pradesh, these aspiring students listened patiently to industry experts during their respective talks on exploring entrepreneurship and corporate opportunities in the biotechnology sector. Held on September 21, 2013, this chapter of SLS was a part of the initiative to create connect between industry and students, replicated earlier at Bangalore, Mumbai and other major cities of India.

In his opening speech, Prof Yajulu Medury, chief operating officer, Jaypee Education System, stated, "This JUIT campus has been like a home to lot many students across India and we therefore take it as a responsibility to create better opportunities for them. In that context, we decided to align with BioSpectrum to bring the student community closer to industry. I hope that students will utilize this golden opportunity to learn the basics and what is required to aspire for a great career in the sector." Prof Medury stated further, "Earlier whenever a student failed to get through the entrance for medical courses, he or she used to use the stream as an escape route. But now it is important to be focused on what the long term needs are and whether it is matching with ones expectations in life."

Presenting his welcome speech, Mr Srinivas Rao, editor, BioSpectrum, asked students to enjoy the experience and ask questions in order to clear their doubts. He also presented the detailed agenda before students and explained the purpose of holding such events. Mr Srinivas mentioned that it is important to bridge the gap between the expectations of students and the skills required in them by the industry. He explained further, "The biotech sector has segments such as agriculture, pharma, bioinformatics, energy, and services. Each one of these present unique opportunities for students to excel and students must know their areas of interest at right time."

Mr Narayanan Suresh, group editor, BioSpectrum gave an overview on Indian bioscience industry. He explained, "To begin

with, biotechnology as a theoretical subject might look new but actually it is not. It has been existing since last 600 years. Talking about now, the areas such as genetic engineering and modern biotechnology play a great role in today's world. This industry has grown substantially over the last decade in India. From being a tiny industry, it has become stronger with each passing year. The first wave of biotechnology entrepreneurs came in 1999-2000 and from there onwards, the industry kept expanding though at a slow pace."

During the course of his presentation, Mr Suresh took the students through various important cover pages of BioSpectrum magazine and explained to them, the relevance of each heading. He explained to them the important collaborations in the history of the industry and ten technologies that shaped its future. "BioSpectrum presents a topical picture of the sector to all the stakeholders including the biotech student community. It feels great to be the part of this initiative and disseminate information to the students in this remote part of the country", elaborated Suresh.

Among the first speakers from the industry was Dr Tomal K Dattaroy, general manager, Reliance Technology Group, Reliance Industries who gave an overview on the activities at his company. Talking about the focus areas at his company's R&D unit, he mentioned, "The biofuels from algae, algae as a chemical factory, biochemicals from cellulose, and biodiesel from Jatropha are few of the primary areas where we are currently working upon. From just 19 to 65 Indian patents and 28 to 76 foreign patents, the patent filing trends at Reliance since past three years, have seen considerable increase. " Dr Tomal further advised the students to keep their focus on honing their skills and choose their area of expertise at an early stage.

Dr Suresh Chawrai, associate director, Vyome Biosciences during his talk gave details about his company's work and recent achievements in product development in dermatology. He mentioned, "We are a research driven company with clear focus on coming up with unique affordable products for all sections of society." Dr Chawrai asked the students to be more proactive and shun their fears of asking questions. He cited his own experiences of being a small town person with shy attitude in his initial days and how he overcame it with time. "You must apply for scholarships at right time and shed inhibitions that stop you from doing so. The scholarships are available in plenty and it is the right attitude that makes students to qualify successfully."

Sharing his story, Dr V N Balaji, consultant and member, Scientific Advisory Board, Jubilant Biosys, mentioned that it was during his initial days that he was considering joining a job in SBI but the strong interest in research took him to US and rest was history. He said that the Information Technology is a different area and cannot be compared to biotechnology industry as far as compensation packages are concerned. Explaining in detail about the various career options that students can explore in this industry, Dr Balaji elaborated, "From preclinical to late stage clinical research activities, the opportunity areas are plenty for the students. Functional genomics, personalized medicine, bioinformatics and pharmagenomics have ample opportunities. High throughput screening and computational biology present great career spaces. Business development also requires technical expertise and can be option for many."

Giving a detailed account of progress made in genetics and evolution in genome sequencing, Dr Gopalakrishna Ramaswamy, deputy general manager-IBU, Genotypic Technology said, "While founders of genetics including Mendel played a key role in discovering it, the same was utilized by the researchers later to build upon it. Hybridization led to development of lot many biotech products such as tobacco, cotton, maize, and papaya. Watson and Crick model, genome sequencing technology, recombinant DNA technology led to helped in reduction of prices and increased manufacturing. Human genome sequencing once done at a cost of 15,000 crore now has been reduced to a comparative miniscule amount. Within ten years of time it has come down to \$10,000 per genome" Dr Ramaswamy asked students to look for opportunities in genome sequencing. "Rather than going on a commonly followed path, students must go ahead and do different things with their novel ideas."

Dr Purna Chandra Rao, head, Fermentation, Tex Biosciences threw light on the recruitment ingredients often utilized by the companies for potential employees. Explaining further, he mentioned, "Job profile and strong basics are important. The area of interest should be clear before any student applies for the opportunity. Corporate sector is highly competitive and full of opportunities but it comes with strict price." Another topic he touched was that of effective communication. "The four pillars of corporate life are mission, vision, culture and values. Leadership quality is very important. Dedicated approach by the students can work wonders. Never giving up is the mantra. Student life is learning but professional life is the application of same in practical sense." concluded Dr Rao.

The entire half day event was thoroughly enjoyed by the students who asked variety of questions to speakers, ranging from career opportunities in emerging areas such as stem cells and genetically modified crops to research trends environmental biology. The cultural items presented in between various sessions including the Himachali folk dance, were well appreciated by one and all.

In his concluding thanking speech, Dr Rajinder Chauhan, dean, department of biotechnology, JUIT expressed satisfaction over the smooth conduct of the event and thanked all the speakers for presenting their talks in simple language. He

appreciated the efforts put by the teams from BioSpectrum and JUIT in making the event a success.

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