

Making a Successful Career

14 September 2005 | News



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Dr MK Bhan, secretary, Department of Biotechnology, is a well-known pediatrics scientist. He was a professor of pediatrics and chief, Pediatric-Gastroenterology and Nutrition at AIIMS. His contributions in the development of various vaccines against diseases in children have been widely acknowledged. Similarly, take the case of Dr BV Ravikumar of XCyton Diagnostics. He has been a doctor. Dr Krishna Ella is a trained microbiologist, who is well versed in plant, human, and health systems. Varaprasad Reddy, the founder of Shantha Biotechnics, is an engineering graduate (Electronics & Communication) from Andhra University and an MBA from Osmania University in 1980, who worked in Defence Electronics Research Lab. Clearly, a study of the lives and successes of the top notch professionals in this industry show that it is not educational qualification alone, but their ability to look beyond what matters. There is no single formula for success. Focus, determination, and keeping abreast with the latest trends in the sector are the key tools.

Neither it is a man versus woman race. On the contrary it is found that this sector, specially in the area of R&D that women account for as much as 30 percent of the workforce. There are at least 20 women in the top positions in the sector. Kiran Mazumdar-Shaw, chairman and managing director, Biocon, is an example of grit, confidence, and hands-on manager, who has turned Biocon as the country's leading biotech company. Other women who have made a tryst with this sector include Anuradha Acharya of Ocimum Biosolutions; Anuradha Desai of Venkateshwara Hatcheries; Dr Firoza Parikh, who was associated with Reliance Life Sciences; Dr Lila Poonawalla, former managing director, Alfa Laval; Dr Usha Barwale Zehr, joint director, research Mahyco; Dr Viloo-Morawalla Patell, managing director, Avesthagen; Kumud Sampath, president, Astra Zeneca; Lilly Sanathanan, president, ClinWorld; Dr Madhuri Sheron, managing director, Monad Nanotech; Mahima

Datla, vice-president,, strategic business development, Biological E; Mala Vazirani, director marketing, Transasia; Medha Gadgil, managing director, Haffkine; Narges Mahaluxmivala, president, clinical development services, Quintiles India; Ranjana Smetacek, director, Monsanto Holding Ltd, India;

Sangeeta Topiwala, head, planning and development, Roche; Suchitra Ella, founder-director, Bharat Biotech; Swati Piramal, director, strategic alliances and communications, Nicholas Piramal; Dr Rama Mukherjee, director, Dabur; Deepanwita, managing director, ICICI Knowledge Park; Radhika Choudary, executive director, ABLE; Dr Saral Thangam, medical advisor and vice president, Lotus Labs; Dr Vyjayanthi, chief clinical investigator, Lotus Labs; Dr Sandhya Ravi, head-clinical trials, Lotus Labs, Dr Anuradha Srikrishna, head-medical diagnostics division, Lotus Labs and Radha Shekar, chief technical officer, Lotus Labs.

In the ensuing pages we bring to you a few examples of how people have carved out a biotech career for themselves.

"Students must do their PhDs"

Dr MK Bhan, Secretary, Department of Biotechnology.

A well-known pediatrics scientist, Dr MK Bhan, took over the reins of the Department of Biotechnology in March 2004. As the Secretary, DBT, he has been instrumental in developing the National Biotechnology Draft Strategy, which in its final shape will provide an impetus to the Indian biotech industry, fine-tune human resource development, synergize biotech research, facilitate industry-academia partnership and encourage biotech trade.

A great votary of quality biotech education, he strongly believes that the country needs scientific leaders. Commenting on the current status of trained human resources in the biotech arena, he said, "There is a misconception that the country is lacking in skilled and qualified manpower. This is not the right kind of thinking since practical exposure in the industry is required for any qualified person to become skilled. What we actually lack is scientific leadership. Without effective leadership, it is not possible to create successful enterprises." "Quality education is a must and those with the minds to excel will be in high demand. At this point of time the recruitment from campuses is low primarily because the industry is in a nascent stage and is maturing. Once this happens, scaling will be the issue for the companies," he added.

In his message to the students,

Dr Bhan said, "I would call upon you students to do PhDs. It will never be an issue to do them. DBT has several scholarships and those will be given to you."

"Hard work mantra for success"

Dr VK Vinayak, Advisor, Biotechnology in the New Initiative (R&D) division, Panacea Biotech

A distinguished scientist, Dr VK Vinayak is one of India's leading authorities in the area of medical biotechnology. With a rich experience of about 36 years in this field as a scientist and a key policy maker, he is presently the Advisor, Biotechnology in the New Initiative (R&D) division in Panacea Biotech, a leading Indian healthcare company. Always "Swimming against the current" has been his motto and coupled with hard work and a focused attitude have helped him achieve his goals.

Dr Vinayak has been keenly following the current trends in the Indian biotech industry. He remarked, "Till now the percentage of good scientists opting for the industry was very small, only 15-18 percent. Budding biotechnologists should remember that the industry is now involved in innovative R&D and many of the private companies spend about 15-20 percent of their turnover in it." "Besides research, there are openings in companies at various levels like in quality control, marketing and sales, regulatory sector, technology transfer, etc. For a start-up, bioservices is an attractive option providing immense opportunities in areas like gene optimization, manufacturing process optimization, cell line characterizing among others", he added. Concerned about the quality of the human capital being generated in the biotech arena, he opined, "Though there is a large churn-out of biotech students in the country today, their overall quality is not good. Today most of the students are like technicians and there is a great dearth of talent. Only if one is innovative, wants to develop something for mankind, he/she should enter the biotechnology arena. The industry needs researchers with niche specializations, like medical biotechnology needs specialists in molecular virology, molecular immunology, molecular pharmacology, stem cells, molecular monoclonal antibodies, etc."

Hard work, focused approach and clarity about what one wants to achieve in biotechnology are the final words of advice for students.

"Prepare for growth through training and development efforts"

Dr Chetan Tamhankar, general manager, SIRO Clinpharm, Mumbai

Dr Chetan Tamhankar, with his doctoral program in Pharmaceutical Sciences with specialization in Bio-pharmaceutics and Pharmacokinetics from the University of Mumbai, is currently working as general manager at SIRO Clinpharm Pvt Ltd, one of the leading and the first few companies in India to initiate activities in clinical research in the country.

Dr Tamhankar has been associated with the industry for over eight years at different levels. He has years of experience in clinical research management as a CRA and has worked as clinical project manager on several studies that were used for registration in Europe, Japan and India. He worked as manager- clinical quality assurance and has audited several protocols and investigator sites for their compliance with ICH GCP and Protocol.

He was also responsible for the setting up of clinical data management and biometrics department at SIRO. He says, "There is a sort of boom in this industry. I believe there is and will be increasing need of trained manpower in clinical research over next decade. You will realize that clinical research management is purely skill-centric business and human capital will be the most important aspect of making India successful in clinical research."

Dr Tamhankar is part of different academic and scientific committees including executive curriculum committee of the Academy of Clinical Excellence Mumbai, a premier teaching institute in clinical research methodology, scientific committee of Indian Society for Clinical Research, research advisory committee for University Board of Veterinary research and has been working as a research examiner for doctorate and post graduate programs in pharmaceutical sciences. He says, "There is tremendous opportunity in this field. But the industry will face scarcity of trained manpower in coming years. Students should look at these opportunities in clinical research positively and prepare themselves for the growth through training and development efforts."

"Excel in one area"

Rajeev Gangal, chief technology officer, itCube Pvt Ltd, Pune

Rajeev Gangal who is presently working as chief technology officer for itCube Pvt Ltd, a wholly owned subsidiary of itCube Inc, an Ohio-based organization that develops customized solutions for process management of medical and clinical research, took up a career in bioinformatics.

Having seven years of experience in this field at different levels and also in different companies such as AstraZeneca India as bioinformatics researcher, project leader at Forscience and consultation to Evolvus, start-up companies in bioinformatics and also as co-founder and chief scientific officer of SciNova Technologies Pvt Ltd, he observes, "Bioinformatics as a business is mainly the IT component. In the west, bioinformatics with more emphasis on life sciences has been around for quite some time due to the emergence of new technologies like micro arrays, proteomics, metabolomics. India has virtually no exposure to these technologies. Thus the bioinformatics opportunity is very limited in India. However, there is a significant amount of work being done in bioinformatics database curation. India has good talent in statistics, mathematics and physics. Life science combined with the above and computing will help us carve a niche in the area of Systems Biology. With the increasing availability of pathway and protein interaction data and clinical data, it will be a major thrust area," Gangal says.

Besides Dr Anand Kumar from AstraZeneca Research Foundation Bangalore, who is strongly committed to supporting novel ideas and technologies developed in India, he says Dr Milind Watve, Prof. Abasaheb, Garware College, Pune and Dr Shridhar Gadre from the Chemistry department of Pune University, have influenced him a lot in this information technology driven life sciences industry.

Gangal has some tips for students who are looking at taking up courses in bioinformatics: learn the basics of how to standardize, interpret and analyze data, learn to bridge the gap between programming and life sciences, specialize in one of them and be good in the other. He says, "These skills will stand you in good stead."

"Follow 3Cs for success"

DG Tripathi, director, Tulip Group of Companies, Goa.

With science background at the graduate level and a masters degree in Management Studies from the University of Bombay, DG Tripathi, director, Tulip Group of Companies, was initially involved in a pharmaceutical company before being introduced to invitro diagnostics industry.

Sharing his experience of entering the diagnostic sector, he says, "I was initially involved with the pharmaceutical industry. Between 1982 and 1990, phenomenal changes took place with the introduction of monoclonal antibodies, recombinant technology as well as the discovery of the HIV virus which had a direct bearing on product development as well as creation of huge opportunity for delivery of advanced products to laboratory users. This fascinated me to opt and continue in biotechnology as a career option."

Speaking about the growth of biotech industry in general and diagnostic sector in particular, Tripathi says, "The opportunity now and in the coming years in biotechnology is better than ever before. With accent on molecular biology and biosensors, the potential to develop new disease diagnosis platforms using the aforesaid technologies is tremendous. Through the development of proteomics and the completeness of the human genome project, new markers of disease are emerging at a fast pace. The challenge and excitement of utilizing these new markers in conjunction with new assay platforms will throw up opportunities for the industry to grow. "

Tripathi has developed Goa-based Tulip Group of Companies which includes Tulip Diagnostics (P) Ltd, Orchid Biomedical Systems, Lilac Medicare (P) Ltd., Coral Clinical Systems, Qualpro Diagnostics, Zephyr Biomedicals into a Rs 100-crore company, taking care of the overall corporate management activities, sales, marketing and finance. He has a few tips for students. He says, "For success, follow 3Cs namely character, competence, and courage. Build and demonstrate these three Cs for continued success in life."

Commenting on the his role model, Tripathi says, "It is difficult to find a perfect individual to emulate. I believe that one can learn and imbibe from strengths of every individual that one works with. I have continued to learn from almost all individuals whether they have been my superiors, colleagues or subordinates."

"Lets contribute for better living"

CL Rath, managing director, Advanced Enzyme Technologies Ltd.

A chemical engineer by qualification, CL Rath, the promoter and managing director of Advanced Enzyme Technologies Ltd (formerly Advanced Biochemicals Ltd) -India's largest industrial enzyme manufacturer and ranked amongst the "Top 10" in the world - pursued his interest in horticulture way back in 1976 and took up papaya cultivation for a couple of years. It was during this time that he conceived the idea of application of horticultural harvest by producing enzymes. This strong urge led him to start his first venture, Rath Papains Pvt Ltd in 1978. At that point of time the business was confined to manufacturing an enzyme called Papain only. The business was later expanded and Advanced Biochemicals Ltd. was incorporated in 1989 to cater to requirements of a wide range of enzymes in the various industries.

Giving credit to his father who influenced him to look at a career in enzymes, Rath says, "It was my father's dream to make India self-reliant in this very vital technology - enzyme technology. He was a freedom fighter and Gandhian throughout his life. I got my mission from my father - LC Rath who started India's first enzyme company way back in 1958 called Enzochem Laboratories Pvt Ltd producing natural papaya based enzyme â€" papain."

With expertise in enzyme manufacturing for about 28 years, CL Rath shared his thoughts on "White Biotechnology" at a two-day discussion conducted by DECHEMA (Society for Chemical Engineering and Biotechnology), a non-profit making scientific and technical society based in Frankfurt, Germany. "The next 2-4 decades will see rapid and tremendous growth in biotechnology. As we realize more and more, we shall need biotechnology for all our existence - food, clothing, shelter, etc. because only that way nature does the work.....!"

A strong disciple of Sri Sri Ravi Shankar - the founder of Art Of Living Foundation, Rath advises the younger generation to put 100 percent efforts in whatever they do. He says, "Life is joy and fun. Let us all enjoy life by contributing to better living through biotechnology."

"Understand subject in depth"

Dr Dhananjay Patankar is head- biotechnology, Intas Pharmaceuticals Ltd

A chemical engineer from IIT Bombay (BTech, 1986), Dr Dhananjay Patankar is currently heading the biotechnology division of Intas Pharmaceuticals Ltd, Ahmedabad, where he looks after the overall development of recombinant protein drugs. He has led the development and manufacturing of two products, which are currently in the market, and five others are at various stages of development.

On the opportunities in biotechnology in the coming years, Dr Patankar who was an industry nominee on a National Task Force for Regulatory Reform in Recombinant Biopharmaceuticals in 2004, says, "I see a lot of growth happening in the biopharma field. A number of Indian companies are already well established in the field, with several having successfully developed and commercialized biotech drugs. These companies are now ready and looking for the next level of growth, to make a mark in the international arena. Apart from that, many new companies are also entering the field. It is fair to expect continuing growth in opportunities as well as salary levels."

"What companies need is high quality of people. We look for students who have a thorough understanding of the subject, irrespective of the actual degree that they have," he adds.

With a good academic and industrial background and industrial experience of over a decade, Dr Patankar suggests students community that it is important that whichever field they choose, they must aim to understand it in depth, understand the principles behind various things, and understand the cause and not just the effect. At the same time, from an industry point of view, it is necessary that the students should develop a good around view of things, such as the economic implications of various technologies, knowledge of patent regime, etc.