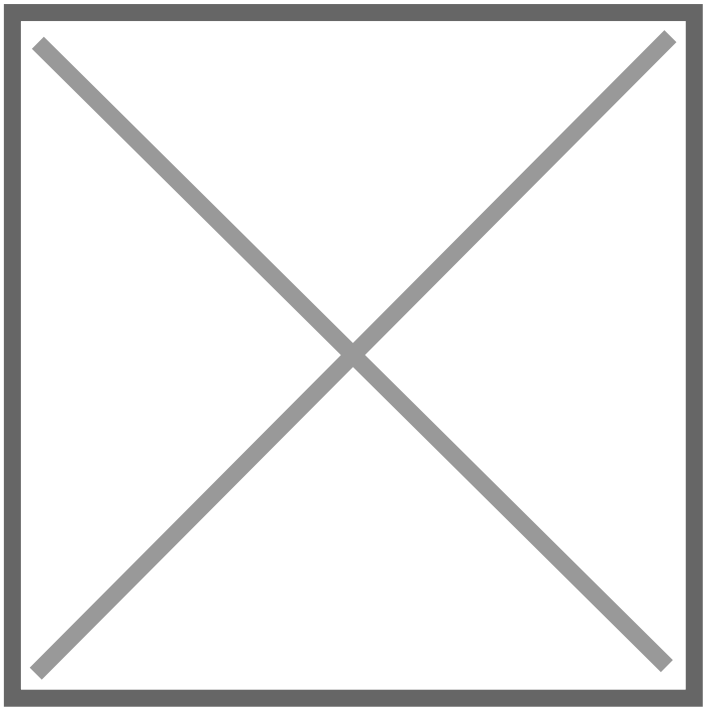
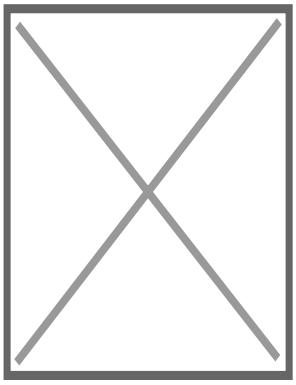
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"THSTI focus is on product outcome and not publications"

07 October 2010 | News



—***Dr Sudhanshu Vrati,*** *Dean, Translational Health Science & Technology Institute (THSTI), Gurgaon*



Translational Research is headed to be the space grabbing spotlight next; and is receiving impetus in the country. The Translational Health Science & Technology Institute (THSTI) is an institute that initiates steps in this direction.

THSTI will function from a unique Health Biotech Science Cluster (HBSC) in Faridabad (Uttar Pradesh), being developed by the Department of Biotechnology (DBT), Government of India. Currently located at Udyog Vihar, Gurgaon (Haryana), THSTI will move in the next couple of years to the 200-acre HBSC campus. HBSC will foster innovative conceptual research in a wide range of biotechnology-related sciences, with initial focus on health biotechnology.

A senior scientist at National Institute of Immunology (NII), New Delhi, and actively involved with THSTI since 2005, Dr Sudhanshu Vrati, recently joined THSTI as its Dean. In an exclusive interaction with BioSpectrum, Dr Vrati, talked about the history, mandate and current activities of THSTI. He also shares his opinion on the progress of biotechnology industry in the country. Excerpts:

Q Can you elaborate on the idea and history behind THSTI?

The initiative was taken as the existing institutes in India do not have adequate infrastructure to conduct translational research, and lack the know-how and expertise, to promote it. I congratulate Dr MK Bhan, secretary, DBT, for initiating this process. He has been working on rotavirus and knows the difficulties of transferring from the laboratory to the industry. That is how THSTI was initiated in 2005, but the funding was approved only in 2007. Until recently, THSTI was operating at the facility of the NII, New Delhi. The interim laboratories were unveiled by Prof G Padmanaban, distinguished biotechnologist, at Udyog Vihar, Gurgaon on March 29, 2010. “In a couple of years, we will be moving to the main campus in the Biocluster located at Faridabad, where currently construction is in progress.

Q What is the structure and mandate of THSTI?

Essentially THSTI is made of three components – the first being, Vaccine & Infectious Disease Research Centre (VIDRC) involved in research in relevant areas of immunology, virology, microbiology, structural, chemical and systems biology. Research areas in host-pathogen interactions, covering the entire range of expertise and interest; from statistical and epidemiological, to the cellular and molecular levels will be considered. The second component is the Pediatric Biology Center. Besides this, there will be a Center for Biodesign that will focus on bio-devices and diagnostics. THSTI will serve as an umbrella organization for all these centers, by the support of the Faridabad Biocluster. Besides THSTI, the Biocluster will house the UNESCO Regional Center for Biotechnology (URCB).

The mandate of THSTI will be to conduct innovative translational research and develop research collaborations across disciplines and professions; to accelerate the development of concepts into tangible products to improve human health.

Q What is the current focus of THSTI?
Our focus primarily is on doing fundamental work, recruiting competent people and developing quality labs. Besides higher research, the courses to be taught at THSTI would include a postgraduate course in Translational Health Science.

Currently, we have recruited three assistant professors and one professor, and three more are on the list. We plan to have at least 10 faculty members by next year. Of the 200 applications received, only three candidates were selected. The idea is to go slow, and get the best talent available. Our focus currently is on quality manpower, capacity building and infrastructure. Besides that, we are focusing on having our own dedicated faculty leaders, members and lab space. The center would develop its own process. Our research at present, is focused on contaminated water, which is the top concern in the country. Viruses such as dengue and malaria are our main focus. We are also working on a tuberculosis (TB) vaccine. Recently, a website for THSTI has been made functional, and enhancements are being made, to increase interactivity.

Q What kind of collaboration would you be interested in, with the industry? Do you feel the need for change in curriculum?
I feel we have to work hand-in-hand with the industry. We have been working with Bharat Biotech on rotavirus vaccine development, which is currently in phase III trials. Also, we are focusing on the most prevalent viral diseases in India such as dengue and malaria. We are trying to boost our manpower by recruiting people with the right expertise, committed to product outcome, so that the industry does not feel let down while approaching us for partnerships. The Indian Institute of Technologies (IITs) and All India Institute of Medical Sciences (AIIMS), New Delhi, are also collaborating with THSTI for the Center of Biodesign that is being created as part of THSTI. This center would mainly focus on biodevices and diagnostics.

If we compare the allocation of space to biotechnology companies in Biotech Parks and the Faridabad Biocuster, the expertise is a major missing link. The development of requisite expertise for product development, is a focus area here, at THSTI.I feel the present curriculum is up-to-date. We need a variety of subjects in the curriculum, because students require the temperament for research in biotechnology. Almost 90 percent of the students are unemployed. This is because the fundamentals are unclear, and most public and private institutes lack the required infrastructure to impart this. The right training, I think, is missing.

Q What is your opinion on the progress and hiccups in the Indian biotechnology industry? Do you think there is a need for changes, in the regulation?
There has been a sea change in the last five years in research facilities and infrastructure. There was a time when funding was an issue; but now, the real issue is quality manpower. Most professors at universities have limited industry knowledge. Competencies required by the industry are different, than what is taught in the classroom. The industry wants manpower and the academia is not providing this. Hopefully, in the future some industry knowledge will be instilled in the students.

On the regulation front, I feel we are following the regulations in the west; while actually, the need of the hour is to have our own set of regulatory guidelines. For example, JE Vaccine is treated as a Biosafety Level 3 (BSL3) in the US. It is exotic in US, but found with high frequency in India. Therefore, we should not be bound to conduct research in BSL 3, in India. This is just one of many such examples. According to my understanding, we should be able, and willing, to change regulation, depending on the need and the situation.

Q What are the challenges that researchers face in India?
The lack of availability of quality equipment has to be addressed. There are many bureaucratic hiccups that hinder researchers. It is surprising that we import water baths and centrifuges from China, when we can invent and manufacture them here. I wonder why we cannot invent and develop good biosupplier equipment in India itself.

Proper monitoring of the funds needs to be done by the DBT. There should be greater accountability for universities; besides stringent checks on recruitment. Presently, a number of biotechnology colleges have mushroomed; and most universities have started courses, without adequate manpower and infrastructure. These institutes need to be better monitored by the government bodies.

Q What kind of translational model is being followed by THSTI? Are there any time-bound projects that are followed upon?
The onus of THSTI is mainly on the product outcome, and definitely not on the publication of papers. We will have a mix of both fundamental sciences and translation of basic ideas into something that benefits the common people.

However, setting deadlines for product outcome is not realistic in cases like developing a vaccine. The appropriate measures

to achieve the outcome will surely give an opportunity for substantial experience.

Rahul Koul in New Delhi