BioSpectrum the business of Bio & Health Sciences

Jaypee University of Information Technology, Solan

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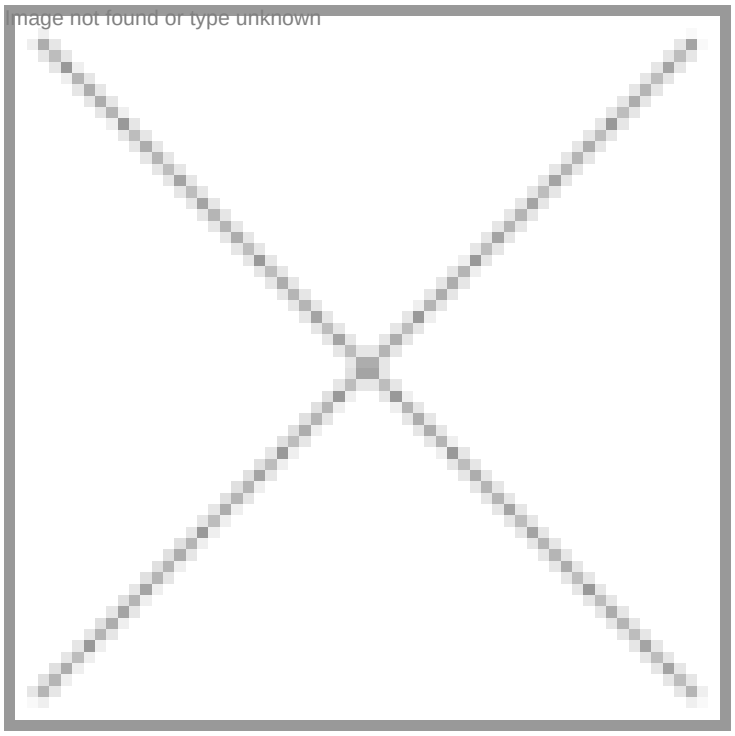
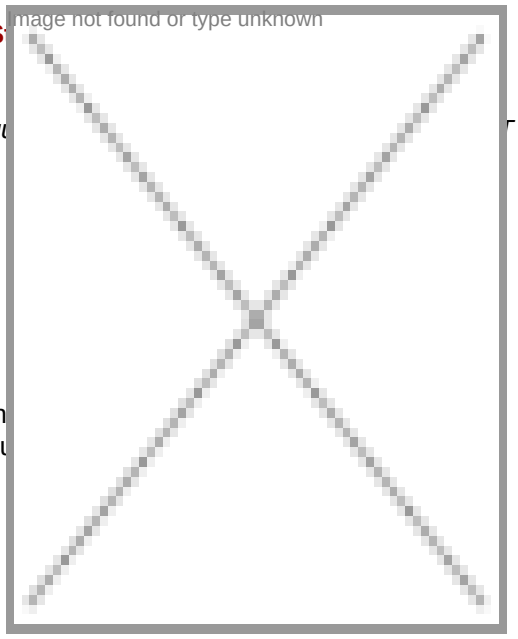


Rank 2 - Jaypee University of Information Technology, Solan



Emphasizing on learner-centric education process, JUIT has carved out a niche for itself as one of the prominent biotech institutes in the country. The what it is today.

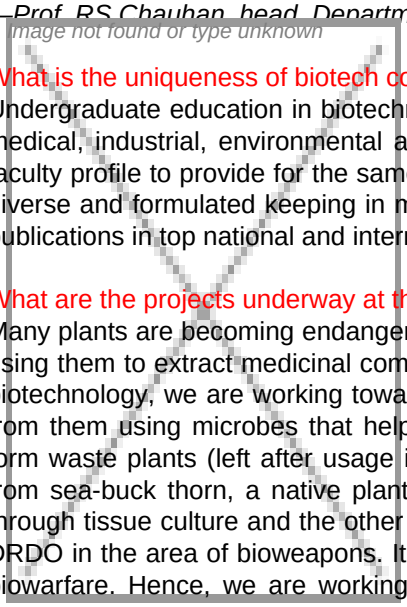
Jaypee University of Information Technology (JUIT), was set up by Act No.14 of 2002 vide Extraordinary Gazette notification of Government of Himachal Pradesh dated May 23, 2002. It has been approved by the University Grants Commission (UGC) under section 2(f) of the UGC Act. The university commenced academic activities from July 2002 with undergraduate BTech degree programs in electronics and communication engineering, computer science and engineering, information technology, bioinformatics, and civil

The department of biotechnology offers four-year BTech programs in biotechnology and bioinformatics, a dual degree five-year MTech program in biotechnology and a six-year dual degree BPharm-MPharm practice. The department receives close to 4,000 applications for 90 seats. The bioinformatics curriculum includes courses on algorithm design, machine learning, computational high throughput screening and drug designing, bioprogramming and scripting languages. The bioinformatics graduates have

an added advantage of working in biotech, bioinformatics, pharmacy and IT industries.
The department is equipped with 12-15 labs providing hands-on training in various areas of biotechnology such as medical biotechnology, industrial biotechnology, environmental biotechnology, food biotechnology, agricultural biotechnology, plant biotechnology, pharmaceutical biotechnology, genomic and proteomic technologies, animal and plant cell culture technologies. The department is actively involved in research having the distinction of running externally funded R&D projects worth Rs 4 crore from various government agencies such as the department of biotechnology, department of science & technology, DRDO, ministry of environment and forest, and an industry, AyurVet Baddi, sponsored project. In the field of medical biotechnology, the department is working on identification of drugs from native medicinal plants of the Himalayas, development of diagnostics for infectious diseases such as TB and hepatitis and vaccines for common diseases in India. An R&D program on jatropha to identify strains that could help in the production of biodiesel is also underway.
The department has a strong doctoral research program wherein 19 PhD scholars are registered with faculty members. There are 30 faculty members in various areas. The placement of graduates has been more than 95 percent during the last three years with most of the students being offered jobs in more than one industry. Many BTech graduates from the university are pursuing MS /PhD degrees in the top class universities in the US and Europe. BTech final year students work on a project for the next two semesters and have to write an international paper on the basis of which they are graded.

'We are looking at greater interaction with the industry'

—Prof. RS Chauhan, head, Department of Biotechnology and Bioinformatics, Jaypee University of Information Technology



What is the uniqueness of biotech courses offered by Jaypee Institute?

Undergraduate education in biotechnology requires providing skills to the students in diverse areas of biotechnology such as medical, industrial, environmental and food biotechnology to name a few. Apart from IITs, very few institutes have varied faculty profile to provide for the same. We not only have faculty in different areas of biotechnology but even the curriculum is diverse and formulated keeping in mind the requirements of the academia and the industry. Our faculty has a high record of publications in top national and international journals along with exposure to international conferences.

What are the projects underway at the department?

Many plants are becoming endangered in the Himalayas due to the proliferation of pharma companies in the region whichare using them to extract medicinal compounds. Hence, we are conserving those plants through tissue culture. In environmental biotechnology, we are working towards bioremediation of electronic waste such as used PCs, mobiles etc., to extract metals from them using microbes that help in the degradation of electronic waste. We have also converted vermi compost made form waste plants (left after usage in labs) to bioethanol at a lab scale. In nutraceuticals, we are working on making wines from sea-buck thorn, a native plant. We have two patents to our credit —one for the production of medicinal compounds through tissue culture and the other for using henna as a dye for staining electrophoresis gels. We are running a project with DRDO in the area of bioweapons. It is believed that pathogens such as bacillus anthracis can be multiplied and then used in biowarfare. Hence, we are working at identifying vaccine candidates common to these pathogens to develop a common vaccine that can fight it.

What is the need of the hour in biotechnology education?

Dr MK Bhan, secretary, DBT, once rightly commented that "we are creating more of technicians and less of scientists". Most of the universities today have come up with courses without good infrastructure and trained faculty, which is important if our educational institutions are serious about imparting good quality education. Also, the courses have to be tailored according to the requirement of the industry and should be revisited according to the current trends, time and again. We at Jaypee are looking at strengthening our infrastructure, research and faculty while aiming at providing students exposure in different branches of biotechnology. We are also looking at greater interaction with the industry and search for high priority areas of research and formulate projects in those areas.

Shalini Gupta