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Rank 4 - Amity Institute of Biotechnology, Noida

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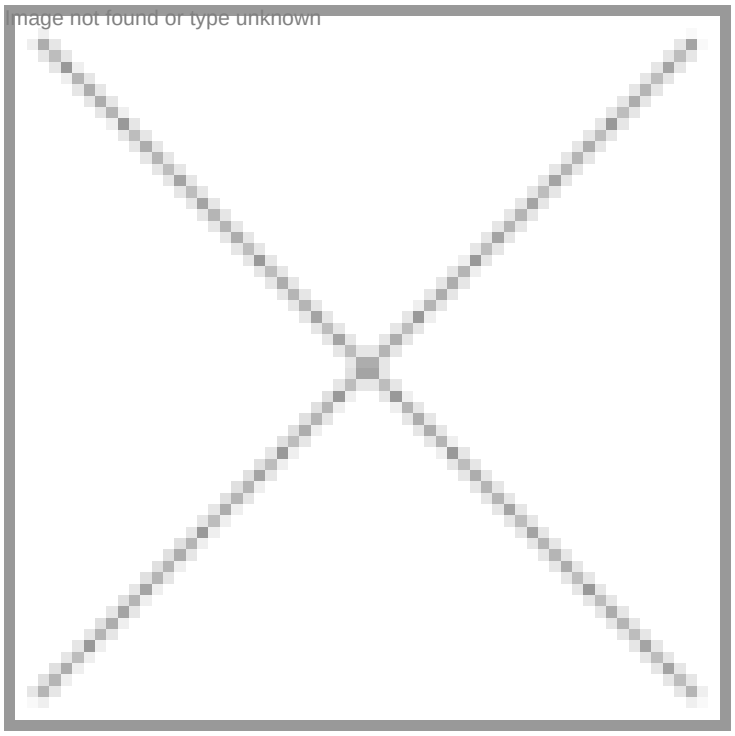

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Amity Institute of Biotechnology is perhaps the largest private university providing biotech education in the country and is continuously striving to give the most advanced courses to its students. Industry-centric curriculum of this in *e students.*

Amity Institute of Biotechnology (AIB) is located on the sprawling Amity Campus at Sector 125 in Noida and was established in August 2001. The institute was awarded with ISO-9001 and 14001 certifications for its quality and environmental management systems applicable to biotechnology e Survey of India (BSI) in 2007.

The institute offers BSc in biotechnology and medical biotechnology, BTech in biotechnology and bioinformatics, dual degree in biotechnology, MSc in bioinformatics, MSc, MBA and MTech in biotechnology. The institute has a strength of 126 faculty members for its 58 specialized courses. Dr PK Paul, a faculty member says, â€œEvery theory subject is supplemented by a practical. We update the syllabus in May/June every year depending on the feedback from the industry. We have an extensive international collaboration with universities like the University of Abertay, Dundee; Napier University, and University of Ulster.â€? Practical examinations are conducted by external examiners from Jawaharlal Nehru University (JNU), International Center for Genetic Engineering and Biotechnology (ICGEB) and so on. The institute also has value addition courses wherein a student has to learn a foreign language, a compulsory course in English and behavioral sciences.

AIB possesses the most modern infrastructure in terms of tissue culture labs, microbiology, central instrumentation facility, computational biology, biochemical techniques and molecular biology. Further, a 60-acre herbal garden with greenhouse facilities, a well-stocked library and state-of-art computing room, facilitate research and consultancy. The institute is equipped with 34 biotechnology (including 10 research laboratories) and nine bioinformatics laboratories. Some specialized laboratories are available for cell biology and genetics, enzymology, molecular biology, recombinant DNA technology, microbiology, animal biotechnology, animal cell culture, plant biotechnology equipped with plant tissue culture facility, immunology, genomics, proteomics and bioprocess technology. The laboratories are equipped with state-of-art equipments like gel documentation system, CO2 incubator, -86oC refrigerator, ELISA readers, ultracentrifuge, tissue sonicator, tissue homogenizor and Peltier regulated UV-VIS spectrophotometer.

AIB is concentrating on research in thrust areas such as life processes related to health care, diagnostic and therapeutics, functional foods and nutraceuticals, environment remediation, biodiversity and energy conservation which are being monitored through 12 well-specialized centers for plant genetic engineering, genomic, drug discovery and innovation, bioinformatics, nanobiotechnology, population studies and human genetics, bioprocess technology and enzymology, and cell and molecular biology. Students have been awarded fellowship for PhD in University of Ulster, North Ireland and Finland as part of the joint initiative with ICGEB. Three major companies working in various areas of bioinformatics viz. Mascon Global, New Delhi; Helix Genomics, Hyderabad; and Accelrys, Bangalore; have been in close touch with AIB and are keen on signing MOUs for collaborative projects.

MBA in biotech management was the first of its kind course in South East Asia started at AIB in 2003. The course curriculum comprises 40 percent industry-oriented biotechnology and 60 percent management with emphasis on marketing. Around 40 percent of students who pass out from AIB move to the corporate sector and it has been found that their feedback has helped the industry to improve their product. About 60-65 percent of the students completing BTech and MSc in AIB go abroad for studying PhD and MS courses. Students have the confidence and the knowledge to branch out into specialized fields of study, opined prof Srivastava, director, AIB.

AIB recently inked a collaboration with Imperial Life Sciences to train students in using the latest technological instruments. These students are either absorbed in ILS or in other biotech companies. The university currently has 25 patents to its credit.

'We give students the best technical education'

-Prof AK Srivastava, director, Amity Institute of Biotechnology

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What are the current challenges in biotech education?

Students in B Sc and BTech biotechnology should have a background in the allied and introductory areas of biotechnology. The syllabus has to be revised in such a way that students get a knowledge of introductory biology at the school level so that they can learn about the basics of biotechnology at the graduate level and then apply them at the postgraduate level to gain greater in-depth understanding of the subject. We have had positive interactions with the industry but there has to be a greater interaction between the industries, research institutes and the academia. To promote that, we have an incubator in

our school that is in constant touch with the industry.

What is the uniqueness of education at AIB?

Our programs are tailored to give students the best technical education in biotechnology. This gives them exposure to the core specialized areas of biotechnology such as agricultural biotechnology, food biotechnology and environmental biotechnology. Exposure to the core specialized areas along with industry exposure help students to carve a niche for themselves. One of the areas we are working on is drug discovery and development of active biomolecules for curing different diseases. A product has been developed for the same which has been patented. We have identified a plant (Dhatura delta) which has the potential to control Helicobacter pylori that causes peptic ulcer. The active principle has been identified and clinical trials are yet to be started. We are also working on developing a chemically synthesized molecule for breast cancer. Most of our faculty is involved in developing such cutting-edge projects.

What is your vision for the future?

Most of our students, either biologists or chemists, are working on drug discovery and molecule identification. The integration of both the disciplines is what is needed. So keeping that in view, we are going to start a school of chemical biology for which the course syllabus has already been developed. This course will have modules from structural biology and organic chemistry. We plan to start an MSc program from next year. We are going to strengthen MSc in medical biotechnology course by offering it along with bioinformatics as a minor subject, since a knowledge of bioinformatics is required by students in this stream to equip them better with the needs of the industry in which they work.

Shalini Gupta