



DEPARTMENT OF BIO-TECHNOLOGY
CHAUDHARY DEVI LAL UNIVERSITY, SIRSA
(Established by the State Legislature Act 9 of 2003)

Heading	Particulars																
Name of the Faculty	Prof. S. K. Gahlawat, Dr. R. K. Salar, Dr. Priyanka Siwach, Dr. J. S. Duhan																
Faculty Information (including constitutions, appointment of Dean etc.)	Prof. S. K. Gahlawat - Dean, Life Sciences. Prof. S. K. Gahlawat - Chairperson, Deptt. of Biotechnology, Food Science & Technology and Energy & Environment Science. Dr. R. K. Salar - Director, Career & Counseling Cell																
Name of the Department	BIOTECHNOLOGY																
1. Department Profile	Attached at annexure -A																
2. Courses Offered (including objective, minimum durations (years), intake, admission procedure, total annual fee (in Rs,) etc.)	<table border="1"> <thead> <tr> <th>Minimum Duration</th> <th>Intake</th> <th>Admission Procedure</th> <th>Annual fee in Rs.</th> </tr> </thead> <tbody> <tr> <td>Ph. D.</td> <td>32</td> <td>Entrance test</td> <td>31100.00</td> </tr> <tr> <td>M. Phil.</td> <td>10</td> <td>Entrance test</td> <td>31820.00</td> </tr> <tr> <td>M. Sc.</td> <td>40</td> <td>Merit</td> <td>18330.00</td> </tr> </tbody> </table> <p>Objectives – Research & Development</p>	Minimum Duration	Intake	Admission Procedure	Annual fee in Rs.	Ph. D.	32	Entrance test	31100.00	M. Phil.	10	Entrance test	31820.00	M. Sc.	40	Merit	18330.00
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3. Faculty Information (including their qualifications, designations, area of specialization etc.)	Attached at annexure -A																
4. Faculties	Attached at annexure -A																
5. Other Information	Attached at annexure -A																



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ABOUT

The Department of Biotechnology at Chaudhary Devi Lal University, Sirsa was established during June, 2004 with major funding from the State Government. The first batch of the students was admitted in August, 2004. So far the department has produced about 250 post graduate students, most of them have preferred to go for higher studies and others have joined academics and the industry. Currently, the Department is running M.Sc. (two year) M. Phil. (One year) and Ph.D. in Biotechnology. The Department having well equipped air conditioned laboratory facilities for research and development, is located at first floor of CV Raman Bhawan.

VISION

Global acknowledgement as a centre of excellence and a premier institute in the frontier areas of biotechnology with an emphasis on realizing the full potential of biotechnology as one of the greatest intellectual enterprise of mankind.

MISSION

This department aims to generate highly skilled manpower having expertise in key areas of modern biology and biotechnology by keeping an integrated approach towards education as well as research.

OBJECTIVES

- ✓ To provide highest quality technical education to the students and equipping them with competency in different disciplines of biotechnology.
- ✓ To undertake research and development activities in frontline areas like microbial biotechnology, bioprocess engineering, genetic engineering, immunology, plant and animal tissue culture etc.
- ✓ Enrichment and enhancement of intellectual knowledge base through organization of seminars, conferences and workshops.
- ✓ Placement of the students in biotechnology related industries/institutes.

PROGRAMME RUN BY THE DEPARTMENT

Academic Programme	Seats Available
M. Sc.	40
M. Phil. (Self Finance Scheme)	10
Ph. D.	32

THRUST AREAS OF RESEARCH

- Microbial Biotechnology
- Plant Biotechnology
- Animal Biotechnology

FACULTY

Sr. No.	Name of Teacher	Designation	Specialization	Contact
1	Dr. S.K. Gahlawat	Professor & Chairman	Animal Biotechnology & Immunology	E-mail: gahlawatsk@rediffmail.com Office Tel. 01666-247143
2	Dr. R. K. Salar	Associate Professor	Microbial Biotechnology	E-mail: rajsalar@rediffmail.com
3.	Dr. Priyanka Siwach	Associate Professor	Plant Molecular Biology	E-mail: psiwach29@gmail.com
4.	Dr. J. S. Duhan	Assistant Professor	Microbial & Environmental Biology	E-mail: duhanjs68@gmail.com

MAJOR RESEARCH PROJECTS SANCTIONED:

S/No.	Project Title	Project Investigator	Funding Agency	Amount (Rs)	Status
1.	Biodegradation of Xenobiotics by microorganisms isolated from hot spring soils	Dr. Raj Kumar Salar (P.I.)	Haryana State Council for Science & Technology, Chandigarh (2007-09)	4,33,000	Complete
2.	Development of easy and inexpensive Loop-mediated isothermal amplification (LAMP) kit for the detection of bacterial fish pathogens	Dr. S.K. Gahlawat(P.I) & Dr. J.S. Duhan (Co-PI)	UGC, New Delhi (2011-14)	9,69,000	Complete
3.	Modulation of phenolic content and antioxidant activity of barley and pearl millet using solid state fermentation	Dr. Raj Kumar Salar (P.I.)	UGC, New Delhi (2012-15)	13,03,300	Ongoing
4.	Association mapping of fibre traits in Gossypium arboretum L. accessing using SSR, ISSR and AFLP markers	Dr. Priyanka Siwach(P.I.)	UGC, New Delhi (2012-15)	11,58,800	Ongoing

FACILITIES AVAILABLE IN THE DEPARTMENT

1. Gel documentation system (BioRad)
2. Thermocycler (BioRad)
3. Thermocycler (ABI)
4. Gel electrophoresis units (03)
5. Nanodrop (Thermo Scientific)
6. Refrigerator (-80° C)
7. Spectrophotometers (3)
8. Laminar airflow (06)
9. Deep Freeze -20oC (03)
- 10.Refrigerators (06)
- 11.BOD incubators (06)
- 12.Shaker incubators (03)
- 13.Ice flaking machine (01)
- 14.Refrigerated circulating liquid bath
- 15.Autoclaves (05)
- 16.Refrigerated centrifuges (02)
- 17.Hot air Ovens (05)
- 18.Microwave oven (02)
- 19.Precision balances (04)
- 20.Inverted microscope (01)
- 21.Photomicrographic unit (01)
- 22.Spinwin (02)
- 23.Cryogenic cylinders
- 24.Air curtains
- 25.Digital dry bath
- 26.Distillation units (02)
- 27.Rotary vacuum evaporator

Ph. D. DEGREE AWARDED TILL DATE = 13 (Thirteen)

CURRENT RESEARCH WORK BEING CARRIED OUT BY Ph.D. STUDENTS

S/ No.	Name of the Candidate	Name of the Guide / Co-Guide	Topic of Research as approved by DRC
1.	Ms. Pooja	Dr. J. S. Duhan (Guide)	Enhancement of antioxidant potential of cereals and pulses by solid state fermentation
2.	Ms. Leena	Dr. Priyanka Siwach (Guide) & Dr. Sunita Dalal (Co-Guide)	Antibiotic Resistance Modifying Activity and Antioxidative Activity of Some Indian Medicinal Plants.
3.	Ms. Khushboo Sethi	Dr. Priyanka Siwach (Guide)	Association mapping of fiber traits in <i>Gossypium arboreum</i> L. accessions using SSR and ISSR markers

4.	Mr. Mukesh Kumar	Dr. Raj Kumar Salar (Guide)	Production and Characterization of Purified Bacterial Tannase for its Commercial Applications
5.	Ms. Rajni Dahiya	Dr. S. K. Gahlawat (Guide) & Dr. balvinder Manuja (Co-Guide)	Genetic Diversity, expression analysis and association of myxovirus resistance gene (Mx) with susceptibility vis-à-vis resistance against equine influenza virus in horses
6.	Mr. Amrinder Singh	Dr. Raj Kumar Salar (Guide)	Isolation, Characterization and Structural Elucidation of Potential Antimicrobial Compounds from Bacteria
7.	Ms. Shalima Sihag	Dr. J. S. Duhan (Guide) & Dr. Subhash Kajla (Co-Guide)	Micropropagation of <i>Aloe vera</i> and assessment of genetic diversity in different cultivars of aloe using PCR based technology
8	Mr. Ravinder Kumar	Dr. Raj Kumar Salar (Guide) & Dr. Vinod Chhokar (Co-Guide)	Analysis of genetic diversity in aloe (<i>Aloe vera</i> L.) genotypes using molecular markers
9.	Ms. Kaushalya Ghosh	Dr. S. K. Gahlawat (Guide) & Dr. P. C. Yadav (Co-Guide)	Studies on stemness properties of cultured buffalo amniotic membrane cells
10.	Mr. Satish Kumar	Dr. S. K. Gahlawat (Guide)	Cryobiological effects and apoptotic gene expression on cumulus oocyte complexes in sheep (<i>Ovis aries</i>)
11.	Ms. Sushma Kumari Pawar	Dr. J. S. Duhan (Guide) & Dr. Rattan Tiwari (Co-Guide)	Molecular Characterization of Durable Adult Plant Resistance to Stripe Rust in Bread Wheat
12.	Mr. Rajesh Kumar Dahiya	Dr. Raj Kumar Salar (Guide) & Dr. Sanjay Kumar (Co-Guide)	Studies on the genomic diversity of <i>Theileria equi</i> among different geographic isolates
13.	Poonam Dhandra	Dr. Priyanka Siwach (Guide) & Dr. Subhash Kajla (Co-Guide)	Micropropagation of elite genotype of <i>Chlorophytum borivianum</i> Sant. Et Fernanad and biochemical characterization of various <i>in vitro</i> raised cultures
14.	Pardeep Kumar	Dr. J. S. Duhan (Guide)	Bioaugmentation of phenolics and antioxidant potential of peanut waste (peanut press- cake) by fermentation with GRAS fungal and bacterial strains.S
15.	Swati Panwar	Dr. Raj Kumar Salar(Guide) & Dr. Subhash Kajla (Co-Guide)	Micropropagation, sex determination and assessment of genetic diversity in <i>carica papaya</i> l.

16.	Sheetal Saini	Dr. Priyanka Siwach(Guide) & Dr. Harisankar Singha (Co-Guide)	Expression of recombinant equine cytokines and analysis of their biological activities
17.	Amit Kumar	Dr. S.K. Gahlawat (Guide) & Dr. Vineeta Singh (Co-Guide)	Characterization of <i>dhfr</i> and <i>dhps</i> genotypes in field isolates of <i>plasmodium falciparum</i> and their correlation with gametocytes
18.	Sapna	Dr. Joginder Singh Duhan(Guide)& Dr. Subhash Kajla (Co-Guide)	Micropropagation, fidelity testing and assessment of genetic diversity in turmeric (<i>curcuma longa</i> l.)
19.	Naresh Kumar	Dr. Raj Kumar Salar (Guide)	Vincristine loaded folic acid-chitosan conjugated nanoparticles for multidrug resistant cancer therapy against small cell lung cancer (sclc)
20.	Megha	Dr. Priyanka Siwach (Guide)	Assembly, annotation and mirna characterization of expressed sequence tags (ests) obtained from <i>gossypium arboreum</i> l.
21.	Pooja Bansal	Dr. Joginder Singh Duhan (Guide)	Biogenesis of nanoparticles and its potential in controlling plant pathogenic diseases
22.	Anil Kumar	Dr. Joginder Singh Duhan (Guide)& Dr. Subhash Kajla (Co-Guide)	Micropropagation, genetic transformation and diversity assessment of rauwolfia serpentine (l.) Benth. Ex kurz

DEPARTMENTAL RESEARCH COMMITTEE

- | | |
|------------------------|----------|
| 1. Prof. S.K. Gahlawat | Chairman |
| 2. Dr. R.K. Salar | Member |
| 3. Dr. Priyanka Siwach | Member |
| 4. Dr. J.S. Duhan | Member |

POST GRADUATE BOARD OF STUDIES & RESEARCH IN BIOTECHNOLOGY

- | | |
|---------------------------|----------------|
| 1. Prof. S.K. Gahlawat | Chairman |
| 2. Dr. R.K. Salar | Member |
| 3. Dr. Priyanka Siwach | Member |
| 4. Dr. J.S. Duhan | Member |
| 5. Dr. Prof. S. S. Dudeja | Outside Member |
| 6. Prof. Ashok Chaudhary | Outside Member |

UNDER GRADUATE BOARD OF STUDIES IN BIOTECHNOLOGY

- | | |
|-------------------------------|----------------|
| 1. Dr. S. K. Gahlawat, | Chairperson |
| 2. Dr. Raj Kumar Salar | Member |
| 3. Dr. Priyanka Siwach, | Member |
| 4. Dr. J. S. Rana, | Outside Member |
| 5. Sh. Suresh Kumar Dhanerwal | Outside Member |

LIBRARY FACILITIES

A number of latest books are available on each course in the Central Library. Three books can be issued at a time to each student. Various journals have been subscribed by this department and online journals have also been subscribed by the University to strengthen the research activities. A reading hall is also available round the clock for the students in the Vivekananda Library.

CULTURAL/CO-CURRICULAR ACTIVITIES

Several students of the department are actively participating in the cultural activities organized by the department. Students are also participating in other cultural activities organized by the DYW, NSS, DSW of CDLU, Sirsa.

The department has established a Biotechnology Forum. This is a platform to enhance the scientific activities in the department of Biotechnology. Monthly meeting on last Saturday of every month is held where seminars/ discussions are held about the current developments in the field of Biotechnology.

TRAINING AND PLACEMENT

The department has established a training & placement cell under the Director, Career and Counseling Cell of Chaudhary Devi Lal University, Sirsa. More than 70 per cent students are well placed in reputed institutes/industry/ Govt. departments.

Chairperson