

PROJECTS OF 2006-08 BATCH of M.Sc (BIOTECHNOLOGY)

Sl. No.	Name	Title of Project	Name of Institutions
1	Chandana Roy	<p>Analysis of genetic variation in different banana variety (Musa species) using Random Amplified Polymorphic DNA.</p> <p>Brief : This work is an attempt which has been made to fingerprint & study their genetic relationship, genetic variability & phylogeny using RAPD marker, which could be useful for germplasm management, crop improvement, detection of gene flow between species.</p>	CRRI, Cuttack.
2	Sunita Sahoo	<p>Estimation of malaria incidence at the community level and comparison of positivity of P.Facparum with Haemoglobin% in the peripheral, ICTKIT and Cord/placental blood of pregnant lady.</p> <p>Brief : The work describes the endemicity of malaria in a particular forest fringed region and the transmission of malaria from pregnant women to child is very high and in pregnant lady we can detect the malaria parasite only by doing PCR of cord and placental blood.</p>	RMRC (Regional Medical Research Centre).
3	Satyajita Mishra	<p>Assessment of genetic diversity in lablab species through molecular markers.</p> <p>Brief : The project describes the genetic characterization of 14 varieties of lablab species was done using two PCR based markers namely RAPD and ISSR. Ten decamer oligonucleotide primers were tested out of which six primer produced reproducible amplifications. Similarly out of 5 ISSR primers 3 primers gave reproducible results. A total of 149 bands were amplified with these primers. A cladogram was derived for the RAPD and ISSR data from Jaccard's similarity coefficient following UPGMA method using SHAN clustering. All varieties sharing a common node of 30%.</p>	ITER, Pharmaceutical College (Center of Biotechnology, Siksha O Anusandhan University, Bhubaneswar)
4	Saumyaparna Chakraborty	<p>Construction of promoter-reporter gene fusions to monitor induction of virulence genes of Vibrio cholerae.</p> <p>Brief : Vibrio Cholera, a non-invasive enteric bacteria, is the causative agent of the diarrhoeal disease cholera. The production of cholera toxin (CT) & toxin co-regulated pilus (TCP) are the major virulence factors, ToxR, ToxT & ToxS are the transcriptional regulators required for the expression of the ctx-gene encoding CT by different environmental factors like temperature & pH, the ctx promoter was fused to a reporter lac gene, the construct was introduced into the V. cholerae chromosome & lac expression was studied at different temperature & pH.</p>	Department of Infectious Diseases in IICB, Kolkata.
5	Nisha Jha	<p>Comparative study on hematological & solid tumors by cytogenetics & molecular genetics approach.</p> <p>Brief : Out of number of cancers, fresh blood samples of AML and lung cancer were collected and analysed for karyotyping and genotyping from karyotyping analysis it was found that chromosome 15 in lung cancer was found to be frequently aberrated from PCR and PCR based RFLP of AML heterozygous mutant (arg/pro) was obtained and of lung cancer heterozygous mutant (arg/pro), homozygous mutant (arg/arg) was observed.</p>	The R & D phase of IACI & RC
6	Soumesh Kumar Padhi	<p>Prevalence of anaemia in children by estimation of Hb and ferritin.</p> <p>Brief : The main objective is detection of concentration of Hb and ferritin in the blood samples by Drabkkaings and ELISA method respectively and effect of low concentration of Hb and ferritin on the children causing Anaemia.</p>	RMRC, Bhubaneswar
7	Sumana Tribedi	<p>Polymerase Chain Reaction (PCR) based detection of Diarrhoeagenic E. coli.</p> <p>Brief : This study was performed with the objective of isolation of E. coli from stool specimens, pathogrouping of diarrhoeagenic E. coli by virulence genes targeted multiplex PCR, and serotyping of isolates, harbouring the virulence genes, with the positive isolates further studies can be performed specially on antimicrobial resistance, plasmid analysis etc.</p>	National Institute of Cholera & Enteric Diseases (NICED, Kolkata)

8	Nishi Bhamra	DNA fingerprinting on varieties of rice using RAPD markers to evaluate the genetic diversity present in rice varieties such as Ramakrishna, Salkati, Pooja, IR64, TN1, Swarna.	CRRI, Cuttack.
9	Mousumi Biswas	Expression of few immune related genes in Indian major carp, <i>Labeo rohita</i> in response to <i>Aeromonas hydrophila</i> infection. Brief : <i>Labeo rohita</i> , the major Indian carp was challenged with infective <i>Aeromonas Hydrophila</i> and tissue samples were collected after various specific time intervals. RNA extraction was done from these tissues under aseptic conditions. cDNA was prepared through the process of reverse transcription (RT) and then annealed with different primers for the expression was qualified for each of the gene expressed.	Central Institute of Freshwater Aquaculture
10	Leepika kumari Das	Analysis of microbial load in cow milk at different storage conditions. Brief: Cow milk collected from 25 cows in & around Bhubaneswar was screened for bacterial isolates. All the 25 samples were divided into 5 groups & stored in different conditions like at room temp for 8 hrs (group I), at 4 degree c/8hrs (groupie), 24 hrs at room temp(group III), at a degree for 24 hrs (group IV) & rest 5 samples were preserved on such at room temp for 24 hrs & microbial load was estimated.	Department of Bacteriology & Virology, Orissa Veterinary College, OUAT, Bhubaneswa
11	Shalina Behera	Production & characterization of xylanase from fungi isolated from waterhyacinth plant (<i>Eicchornia crassipes</i>). Brief : This work describes the production of xylanase by the unknown fungal strain and optimization of the conditions suitable for xylanase production by that strain. In addition characterization of enzyme are also investigated. The study will assist further in determining the suitability of the enzyme for industrial application.	North East Institute of Science & Technology, Jorhat, Assam
12	Suman kumari Singh	To find out variations in transthyretin gene in Indian Population and its association with Spinocerebellar ataxia Brief : The project describes that the amyloidosis are diseases of secondary proteins structure in which a normally soluble protein forms insoluble extracellular fibril deposits causing organ dysfunction. One of the 20 proteins that form human amyloid fibril are transthyretin(TTR). Ataxia is a neurological disorder Amyloidosis cause polyneuropathy and ataxia also cause polyneurapathy. So on this basis we are trying to find out if there is any association between TTR mutations and spinocerebellar Ataxia.	Department of Molecular Biology, IGIB, Delhi
13	Aasita Apoorva	Agrobacterium rhizogenes mediated Genetic Transformation of <i>Mentha arvensis</i> L. and <i>Gymnema sylvestre</i> R.Br and Hairy Root Culture of <i>Gymnema sylvestre</i> R.Br	Birla Institute of Technology, Mesra, Ranchi
14	Preetam Samant	Analysis of microbial load in Buffalo milk at different storage condition. Brief : Buffalo milk collected from 25 buffaloes in & around Bhubaneswar were screened for bacterial isolates. All the 25 samples were divided into 5 groups & stored in different conditions like at room temp for 8 hrs (group I), at 4 degree c/8hrs (groupie), 24 hrs at room temp(group III), at a degree for 24 hrs (group IV) & rest 5 samples were preserved on such at room temp for 24 hrs & microbial load was estimated.	Department of Bacteriology & Virology, Orissa Veterinary College, OUAT, Bhubaneswar.
15	Sisir kumar Dash	Genetic relationship & diversity between <i>Mangifera</i> species revealed by RAPD analysis Brief : Through this project the genetic instability, variation in chromosome, % of mutation gene flow inside the gene pool can be determined by making linkage map & sequencing. By knowing the gene sequence the better hybrid of plant species can be produced. The transformation in the genome of the plant can be done after knowing the linkage mapping and sequencing.	CRRI, Cuttack
16	Manini Samal	Callusing and regeneration on Stevia Plant	Central Rice Research Institute(CRRI)
17	Jyoti Prasad Lahan	Study on antifungal activity of plant extracts (<i>Solanum melongena</i>) against Human pathogenic fungi causing superficial skin diseases. Brief : During the project investigation plant materials by using different solvents have been extracted and tested in vitro efficacy of plant extracts against human pathogenic fungi. Among the various extracts chloroform extract is more effective.	Defence Research Laboratory, Tezpur Assam.

18	Leena Parida	<p>Malaria during Pregnancy PCR positivity in comparison to peripheral and ICT kit with Hb% of cord and placental Blood & estimation of malaria incidence at community level.</p> <p>Brief : Malaria is a major cause of morbidity and mortality in tropical countries like South African countries, India etc. Orissa contributes 225 of all malaria cases, 43% of all cases of plasmodium falciparum malaria and 50% of all malaria attributable deaths reported in the country. So in this project we compare the PCR positivity in comparison to peripheral, ICT kit with Hb% of cord and placental blood and also estimated the malaria incidence at the community level in the Niladri block of Khurda district.</p>	Regional Medical Research Centre (ICMR)
19	Deepta Bhanoo Somaprov	<p>Interspecific variation of Genomic Characteristics of Gasteria revealed through RAPD markers.</p> <p>Brief : The project starts with isolation of the sample, isolation of DNA, Qualification of DNA concentration, PCR amplification using random primers & finally the electrophoresis & visualization step of the amplified products.</p>	Regional Plant Resource Centre Lab.
20	Rubi Kumari	<p>Isolation and characterization of Rhizobium isolated from Leguminous Lac Hostplants</p> <p>Brief : the project describes that Rhizobium helps in nitrogen fixation, found in the root nodules of leguminous plants. Rhizobium helps in increasing the production of leguminous plants. Since Rhizobium is of great importance from both agricultural and atmospheric point of view. So it provides a wide range of area in its research and development area.</p>	IINRG, Namkum.
21	Parbin Kausar	<p>Analysis of microbial load in Goat milk at different storage conditions.</p> <p>Brief : Goat milk collected from 25 goats in & around Bhubaneswar were screened for bacterial isolates. All the 25 samples were divided into 5 groups & stored in different conditions like at room temp for 8 hrs (group I), at 4 degree c/8hrs (group II), 24 hrs at room temp(group III), at a degree for 24 hrs (group IV) & rest 5 samples were preserved on such at room temp for 24 hrs & microbial load was estimated.</p>	Department of Bacteriology & Virology, Orissa Veterinary College, OUAT, Bhubaneswa
22	Tushar Kanti Saha	<p>A Comparative study of the Immune Status of Malignant Brain Tumor following treatment like Immunotherapy.</p>	Cellular & Molecular Immunology Lab, Institute of Post Graduate Medical Education & Research.
23	Bijay Buragohain	<p>To evaluate the antidermatophytic activity of medicinal plant(Ocimum Sanctum).</p> <p>Brief : During the project work, the extracted plant material using solvents like petroleum ether, chloroform, methanol etc and then tested the invitro efficacy of the plant extracts, petroleum ether was found to be more effective against the tested dermatophytes.</p>	Biotechnology Division of Defence Research Lab, Tezpur, Assam