



DEPARTMENT OF MICROBIOLOGY GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG



Hands on Training On “Food Microbiology and Enzyme Technology” In Collaboration with BioInnovale Lifescience Private Limited, Bengaluru (08th January to 14th January 2024)

Objectives:

The objectives of the workshop were to provide information about how the microorganisms are handled for safety of food, the presence of specific microbial strains, potential contaminants and effectiveness food preservation methods. Source of enzyme to be used for industrial purposes, extraction, purification, quantification and applications.

S.No.	Resource Persons
1	Dr. Devashish Sahoo, Director, Bioinnvale Lifescience Pvt. Ltd., Bhubaneswar
2	Mr. Virendra Vaishnav, Technical Assistant, Bioinnvale Lifescience Pvt. Ltd., Bhubaneswar
3	Mr. Rajesh Khatik, Technical Assistant, Bioinnvale Lifescience Pvt. Ltd., Bhubaneswar
S.No.	Faculty Involvement Dept. of Microbiology, Govt. VYT PG Autonomous College, Durg (CG)
1	Dr. Pragya Kulkarni
2	Mrs. Rekha Gupta
3	Mrs. Neetu Das
4	Ms. Mrinalini Soni
5	Ms K.K. Yashoda
Participants	52 (PG students and Research Scholars)

Brief Report:

In-House Hands-on Training was organized for PG students of Microbiology during 8th to 14th January 2024. The objectives of the workshop were to provide expanded understanding of enzymology and offering valuable insights for future applications and research in the field. The hands-on experience on food microbiology enhances understanding of microbial interactions

in food contributing to a more comprehensive knowledge of food safety and quality assurance.

The workshop was sponsored by PM-USHA for skill enhancement of students.

<p>Day 1 08.01.2024</p>	<ul style="list-style-type: none"> • Registration • Inauguration: Chief Guest: Dr. M.A. Siddiqui, Principal, Govt. V.Y.T. PG Autonomous College, Durg • Lecture: General introduction about food Microbiology. Food as substrate for microorganisms (Dr. Devashish Sahoo) • Practical: Good manufacturing practices, Quality guidelines of industries, Code of federal regulations, Clinical research, Critical limits and personal hygiene • Lecture: Properties and possible sources of Bromelain. • Practical: Extraction and primary purification of enzyme by crushing, separation and filtration method from pineapple
<p>Day 2 09.01.2024</p>	<ul style="list-style-type: none"> • Practical: Enzyme purification by centrifugation and estimation of total protein, Salt precipitation of enzyme, selection of salt and its importance
<p>Day 3 10.01.2024</p>	<ul style="list-style-type: none"> • Lecture: What is dialysis, when and how it is done, about dialysis membrane • Practical: Activation of Dialysis membrane, loading, preparation of magnetic steerer and standardization time for dialysis
<p>Day 4 11.01.2024</p>	<ul style="list-style-type: none"> • Lecture: Chromatography, types, column beds, elution and elutes • Practical: Column packing, and collection of elute, Validation of Pharmaceutical products for microbial contamination, examination of tablets and dairy products, inoculation on different culture media
<p>Day 5 12.01.2024</p>	<ul style="list-style-type: none"> • Practical: Total protein estimation by Folin Lowry method and Enzyme assay, preparation of graph, Calibration curve
<p>Day 6 13.01.2024</p>	<ul style="list-style-type: none"> • Practical: Observation of culture plates for microbial growth, MBRT for milk samples, SDS PAGE for protein profiling for crude and purified enzyme, Application of pure enzyme for meat tenderization
<p>Day 7 14.01.2024</p>	<ul style="list-style-type: none"> ➤ Quiz for Participants: Through Kahoot software (25 Questions based on entire learning of workshop) ➤ Feedback session for Participants ➤ Certificate distribution







DEPARTMENT OF MICROBIOLOGY
GOVT. V.Y.T. PG AUTONOMOUS COLLEGE, DURG



NATIONAL CONFERENCE
ON
MICROBIAL BIOPROSPECTING: EXPLORATION AND
CONSERVATION
(5th and 6th February 2024)

The conference provided an excellent forum for Participants and students to understand and focus on emerging features of MICROBIAL BIOPROSPECTING and it was a modest attempt to generate response from all corners towards awareness of applied aspects of Microbiology.

Objectives:

Exploration And Conservation of Microbial Biodiversity For:

- *Agriculture, Food and Nutrition (AFN)
- *Secondary Metabolite and Biofuel Production (SBP)
- *Bioremediation and Waste management (BRW)
- *Nanotechnology, Medicine and Cosmetology (NMC)
- *Microbial Biotechnology and GMO (MBG)
- *Bioinformatics and computational biology (BIC)

Chief Guest for Inauguration:

Dr. K. Subramaniam, Member, State Planning Commission, Chattisgarh

Key Note Address:

1. **Dr. A.M. Deshmukh, Rtd. Principal and national President, MBSI**
Topic: Microbial Bioprospecting: Exploration of useful Microorganisms
Application of microorganisms in bioleaching, Biopesticide, Bioplastic, Bio cementing and as Bioweapons

Plenary Lectures:

1. **Dr. Sanjeev Patankar: Rtd. Principal and National Coordinator, MBSI**
Topic: Probiotics: Possible role in combating malnutrition
Study of tribal food Ambil as probiotic and discussions on prebiotic and symbiotic food material and their importance in human health
2. **Dr. K. Surya: Scientist, CIPHET, Ludhiana**
Topic: Unlocking Value: Protein extraction from Agro-Industrial Residues

Types of Agro-industrial residues, biproducts, Co-products and waste for extraction of protein to address protein requirements of expanding population.

3. Dr. K.K. Sahu: Professor, SoS in Biotechnology, Pt. RSU, Raipur

Topic: Microorganisms: Bio producer, Eco-cleaner, Productivity enhancer and Nutrient Provider

Application of bacterial consortium for TNT detection, remediation of industrial wastes, heavy metal contamination, plant growth promoter and in boosting the plant growth.

Chair persons:

1. Dr. Rupinder Diwan: Professor, Govt. N. PG Autonomous College, Raipur
2. Dr. Vimal Kanungo: Assistant Professor, Govt. J. Yoganandam PG College, Raipur
3. Dr. Ranjana Shrivastava, Professor, Govt. V.Y.T. PG Autonomous College, Durg
4. Dr. Usha Sahu, Assistant Professor, Govt. V.Y.T. PG Autonomous College, Durg

Chief Guest for Valedictory:

Shri Shirish Taunk, Managing Director, SRT Agrobiotech Pvt. Ltd., Funda Patan, Durg

Participants:

Faculties	41
Research Scholars	12
UG/ PG Students	91

States Covered: 07 (Chhattisgarh, Madhya Pradesh, Maharashtra, Gujrat, Rajasthan, West Bengal, Punjab)

The conference started on 05.02.2024 with Saraswati Vandana and formal welcome of guests.

Welcome Address and about the theme of conference was delivered by the convener Dr. Pragya Kulkarni followed by blessings of In charge Principal Dr. S. N. Jha. Inaugural Speech was delivered by chief guest Dr. K. Subramaniam. He spoke on ancient knowledge about bioprospecting and modern practices and concluded with applications of microbial bioprospecting. Dr. A. M. Deshmukh, National President, MBSI through light on MBSI initiatives and activities throughout the nation and appealed the audience to join the society for betterment of mankind. Vote of thanks was given by Mrs. Bharti Ahirwar. The session was conducted by Mrs. Rekha Gupta.

The key note address was given by Dr. A.M. Deshmukh. He demarcated the theme of Microbial bioprospecting using various examples.

The first plenary lecture was delivered by Dr. Sanjeev Patankar, Rtd. Principal and National coordinator, MBSI. He emphasised the used of probiotics in food and discussed the case study of a tribal food of Gadchiroli, Maharashtra.

The second plenary lecture was supported by Dr. K. Surya, Scientist, CIPHET, Ludhiana, on Unlocking Value: Protein extraction from Agro-Industrial Residues. She explained the definition of Agro-residues and discussed the various uses of it.

The session after lunch was dedicated to Oral and Poster presentations of the participants. It was conducted in two parallel sessions and chaired by Dr. Rupinder Diwan, Dr. V.K. Kanungo, Dr. Ranjana Shrivastava and Dr. Usha Sahu respectively.

The presentations were further divided in to three categories as Students, Research Scholars and Faculties.

Oral Presentation	
Category	Number of participants
Faculty	5
Student	8
Research Scholar	5
Poster Presentation	
Student	9
Research Scholar	3
Faculty	4

Results of Presentation:

Oral Presentation	
Student	Result
Danish Vinod Patil , M.Sc. Sem IV, Govt. VYT PG Autonomous College, Durg (C.G.)	I
Ms. Mansi Shrivastava , M.Sc. Sem IV, Govt. VYT PG Autonomous College, Durg (C.G.)	II
Ms. Shruti Kumari , B.Sc. III, O.P. Jindal University, Punjpathara, Raigarh (C.G.)	III
Research Scholar	
Ms. Anamika Sharma , Govt. VYT PG Autonomous College, Durg	I
Dev Narayan Patel , Govt. N.PG College of Science, Raipur (C.G.)	II
Ms. Hemshikha Sahu , Govt. N.PG College of Science, Raipur (C.G.)	III
Faculty	
Mr. Yogesh Kumar , NRC on Camel, Rajasthan	I
Dr. Anindita Deb Pal , J.D. Birla Institute, Kolkata (W.B.)	II
Ms. Mausami Dey , Govt. VYT PG Autonomous College, Durg (C.G.)	III
Poster Presentation	
Student	Result
Ms. Megha and Disha Babulkar, Nabira Mahavidyalaya, Katol (M.S.)	I
K Divya Rao and Anisha, Govt. VYT PG Autonomous College, Durg (C.G.)	II

Ms. Kashish Nag, Ms. Akansha, Ms. Shaily Prajapati and Ms. Khushi Singh, O.P. Jindal University, Punjipathara, Raigarh (C.G.)	III
Research Scholar	
Mrs. Mansi Sahu, Govt. VYT PG Autonomous College, Durg (C.G.)	I
Ms. Neha Toppo, St. Thomas College, Bhilai (C.G.)	II
Ms. Laleeta, Govt. VYT PG Autonomous College, Durg (C.G.)	III
Faculty	
Ms. Dhanashree M. Ridhorkar, Nabira Mahavidyalaya, Katol (M.S.)	I
Mrs. Neetu Das, Govt. VYT PG Autonomous College, Durg (C.G.)	II

Third plenary session was started on 06th Feb with the lecture of Dr. K.K. Sahu on Microorganisms: Bio producer, Eco-cleaner, Productivity enhancer and Nutrient Provider. He explained the various applications of indigenous microorganisms in production of useful products, fertilizers, bio reclamation agent and bio nutrient producer etc.

Valedictory Session:

The valedictory session was presided by Dr. M.A. Siddiqui, Principal and Patron with the chief guest Mr. Shirish Taunk, Managing Director, SRT Agro biotech Pvt. Ltd., Funda Patan, Durg. The session was initiated with concluding remarks by the convener Dr. Pragya Kulkarni. She concluded that the theme and the objectives of the conference was successfully deliberated and the possibilities of application of microorganisms as bioprospecting tool has been introduced among the assembly.

Mr. Shirish Taunk addressed the gathering about huge opportunities in the microbial bioprospecting. He summarized his own experience in developing his firm starting from production of Rhizobium and Mycorrhiza based biofertilizer at small scale to present day nanotechnology based biofertilizers, biopesticides and micronutrients for national and international supply.

The rank holders were cherished with a token of prizes and all participants were appreciated with participation certificates at the end.

Finally, the Principal conveyed his best wishes and blessings for successful completion of the conference.

The session was conducted by Mrs. Neetu Das and Vote of thanks was given by Mrs. Rekha Gupta.

Convener Dr. Pragya Kulkarni Head, Microbiology Department Govt.V.Y.T.PG Autonomous College, Durg	Organizing Secretary Mrs. Rekha Gupta Mrs. Neetu Das
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Organizing Committee

Miss. Mrinalini Soni
Miss. Kunu Kanda Yashodha
Miss. Anamika Sharma
Mrs. Hempushpa Urwasha
Mrs. Mansi Sahu
Mrs. Bharti Ahirwar
Miss. Tanya Sahu

Advisory Committee

Dr. A. M. Deshmukh, President MBSI
Dr. Swaranjit Singh, Ex. Head Env. Biotech.
Microbiology CSIR-IMTECH, Chandigarh
Dr. Sanjeev Patankar, National Coordinator MBSI
Dr. Nachiket Kotwaliwale, Director CIPHET, Ludhiana
Dr. Samlesh Kumari, CIAE, Bhopal
Dr. A. K. Gupta, Rtd. Prof. SOS Life Science, Pt. RSU,
Raipur
Dr. K. K. Sahu, Head SOS Biotechnology, Pt. RSU,
Raipur
Dr. Anil Kotasthane, IGKV, Raipur
Dr. Ranjana Shrivastava, Govt. V.Y.T. PG Auto.
College, Durg
Dr. Anil Kumar, Govt. V.Y.T. PG Auto. College, Durg
Dr. Usha Sahu, Govt. V.Y.T. PG Auto. College, Durg
Dr. Sanju Sinha, Govt. V.Y.T. PG Auto. College, Durg



