



**Dr. Madhulika Singh, Prof. and Head
Department of Botany and Biotechnology**

Name of the Department : Department of Botany and Biotechnology **DST-FIST Sponsored**

Year of Establishment: B.Sc Botany-1988, B.Sc Microbiology-1997
M.Sc Biotechnology –2002, B.Sc Biotechnology-2008

Courses offered : (I) UG: B.Sc (II) PG: M.Sc. (III) Ph.D: Bot.and Biotech.

Course	Subject	No. of Elective options	Subject Combinations
Undergraduate Level	Botany, Biotechnology Microbiology	04	Bot. Zoo. Chem Bot. Micro. Chem Bot. Biotech. Chem Biotech. Zoo. Chem.
Post Graduate Level	Biotechnology	01	Biotechnology

Faculty Profile :

S. N	Name	Qualification	Teaching experience		Specialization	Research Guide	Ph.D Guided
			UG	PG			
1	Dr. Madhulika Singh Prof. and Head	M.Sc., Ph.D	33	11	Plant Physiology Microbial and Environmental Biotechnology	Botany and Biotech	08
2	Dr. Archana Lalwani Asstt Prof .	M.Sc., Ph.D	16	15	Biotechnology	--	--
3	Dr. Shuchi Gupta Asstt.Prof.	M.Sc. Ph.D	11	11	Microbiology and Biotechnology	--	--
4	Mrs. Kashish Bateja	M.Sc.,B.Ed	02	-	Environmental Botany	--	--

Infrastructure Facilities

Library: Reference books 2114 ,Research Journals-03,E-Journals-By INFIBNET

Laboratories :

- ❖ Botany Lab.(50'x50'),
- ❖ Microbiology Lab.(30'x50'),
- ❖ Biotechnology Lab. (60'x40')
- ❖ Laminar Air Flow Room(12'x12'),
- ❖ Tissue Culture Lab. (12'x12'),
- ❖ Computer Room (8'x8') and
- ❖ DST-FIST Research Laboratory
- ❖ Smart Class rooms with ICT facility,

Details of Research Publications of the faculty in last five years: Total No. : 40

Impact factor range/average: 3.0 to 4.0
h-index:05 (Google scholar)

S.N	Name	Title of research paper	Name of journal	Peer reviewed	National/International	ISSN No	Impact Factor
1.	Kriti Dave, Madhulika Singh and Ragini Gothwal	Antagonistic Efficiency of Indigenous Rhizospheric Bacteria against <i>Macrophomina phaseolina</i> causing Charcoal Rot in Soybean	(Res. Jr. of Agril. Sci. 12(2): 470–473) (2021):	Yes	International	ISSN 0302-8933	IF 4.63
2.	Naveen Joshi, Ragini Gothwal, Madhulika Singh, Kriti Dave	Characterization and evaluation of sulphur oxidizing ability of bacteria isolated from agricultural soil.	Journal of Xi'an Shiyou University, Natural Science Editio ISSN : 1673-064X (http://xisdxjxsu.asia) Vol. 16 (10): 266-275 (2020)	Yes	International	ISSN : 1673-064X	IF 5.6
3.	Naveen Joshi I, Ragini Gothwal, Madhulika Singh, Kriti Dave	Novel sulphur-oxidizing bacteria consummate sulphur deficiency in oil seed crop.	Springer-Verlag GmbH Germany, part of Springer Nature 2020 (Archives of Microbiology https://doi.org/10.1007/s00203-020-02009-4) (2020)	Yes	International	ISSN 0302-8933	IF 1.5
4.	Kriti Dave, Ragini Gothwal, Madhulika Singh and Naveen Joshi	Facets of rhizospheric microflora in biocontrol of phytopathogen <i>Macrophomina phaseolina</i> in oil crop soybean.	Springer-Verlag GmbH Germany, part of Springer Nature 2020 (Archives of Microbiology https://doi.org/10.1007/s00203-020-02046-z) (2020)	Yes	International	P- ISSN: 0976-1675 □ E- ISSN: 2249-4538	IF 1.5
5.	Archana Lalwani, Ragini Gothwal, Nidhi Tripathi	Morphometric Analysis of <i>Mystus seenghala</i> from Narmada River	Journal of Emerging Technology and Innovative Research, Volume 6, Issue 5, pp. 440- 444. (2019)	yes	National	ISSN -: 2349-5162	5.87
6.	Archana Lalwani, Ragini Gothwal, Nidhi Tripathi	Analysis of Morphometric and Meristic characteristics of <i>Mystus bleekeri</i> from the Narmada River,	International Journal of Recent Scientific Research Vol. 10, Issue, 05(D), pp. 32366-32369. (2019),	Yes	International	ISSN :0976-3031	7.383
7.	Archana Lalwani, Ragini Gothwal, Nidhi Tripathi	Applicability of DNA Barcoding in Fish Taxonomy and Phylogenetic Diversity,	Journal of Emerging Technology and Innovative Research, Volume 6, Issue 6, pp. 519-527. (2019),	Yes	National	ISSN -: 2349-5162	5.87
8.	Archana Lalwani, Ragini Gothwal, Nidhi Tripathi	Validation of Primer for Sequencing of Mitochondrial Cytochrome Oxidase Subunit I gene of <i>Mystus bleekeri</i>	International Journal of Research and Analytical Reviews, Volume 6, Issue 2, pp. 548- 552. (2019)	Yes	International	ISSN (Online) : 2348-1269	5.75
9.	Deepika Bhargav and Madhulika Singh	Preclinical efficacy of <i>Allium sativum</i> (L) on HIV positive ANC patients.	Academic Social Research (3)7,96-100. (2018):	Yes	National	ISSN (online) : 2147-2971	IF 3.267
10.	Madhulika Singh and Priya Rathore, Suchi Gupta	Study and Isolation of Skin Microflora and their Effects on Human Health..	International journal of Innovative Science and research Technology (3)9 :2456-2165(2018):	Yes	International	ISSN: 2456 - 2165	

11.	Shobha Shrivastava, Suchi Gupta and P. Tripathi	Antibiotics resistance pattern in urinary tract infection patients in Bhopal.	Journal of microbiology and biomedical research. Vol 4:1,1-7. (2018):	Yes	National	ISSN (Online): 2395-5678	3.9
12.	Shobha Shrivastava, Suchi Gupta and P. Tripathi	Prevalence of ESBL phenotype in uropathogens associated urinary tract infection in Bhopal.	Int. J. of research in Biosciences. Vol.7:1, 57-63 (2018):	Yes	International		2.9
13.	Madhulika Singh and Priya Rathore	Study of Antimicrobial Activity of some medicinal Plants against <i>Escherichia Coli</i> , <i>Klebsiella Sp.</i> <i>Staphylococcus Sp.</i> And <i>Pseudomonas Species</i> .	International Journal of Green and Herbal Chemistry. 7(1):2278-3229. (2017)	Yes	International	E-ISSN:2278-3229	IF-1.839
14.	Madhulika Singh and Priya Rathore	Study of Micro propagation of shoot and roots Proliferation of <i>Chlorophytum borivilanum</i> .	International Journal of Science and Research (IJSR) .6(11):2319-7064. (2017)	Yes	International	ISSN: 2319-7064	IF-6.391
15.	Niharika Amrute Bhawsar and Madhulika Singh	Gene Targeting for active hydrocarbon degradation in biosurfactant producing <i>Pseudomonas aeruginosa</i> NGB4	International Journal of Biotechnology (Photon). 116 : 502-51 (2017):	Yes	International	ISJN: 3352-7304	Impact Index 4.23
16.	Niharika A.Bhawsar and Madhulika Singh	Antibiotic sensitivity test of hydrocarbon degrading <i>Pseudomonas aeruginosa</i>	.(IJAR) Int. J. Adv. Res. 5(4), 832-835 (2017):	Yes	International	ISSN: 2320-5407	IF 6.118
17.	Neelam Singh and Madhulika Singh	An Evaluation of Phytochemicals in Maceration and Infusion Extracts of <i>Cyprus rotundus</i> Linn Leaves in Two Different Solvents.	Journal of Pharmacology and Biomedicine 1(2): 77-84 (2017):	Yes	National	ISSN 2456-824	--
18.	Neelam Singh and Madhulika Singh	An arbitrary survey for diversity of medicinal plants from regions of Hoshangabad, M.P. India.	. Int J Ind Herbal Drugs 2017; 2(4): 9-12. (2017):	Yes	International	ISSN-2456-7345	--
19.	Niharika A.Bhawsar and Madhulika Singh	<i>Pseudomonas aeruginosa</i> involves biosurfactants in Hydrocarbon degradation of oil contaminated water.	Journal of Pharmacy Research, 10(11),708-714. (2016):	Yes	National	ISSN: 2319-5622	IF 2.89
20.	Niharika Amrute Bhawsar and Madhulika Singh	GC-MS profile of Biosurfactant producing and Hydrocarbon degrading <i>P. aeruginosa</i> NGB4 in liquid culture system.	Journal of Pharmacy Research,10(11),726-729 (2016):	yes	National	ISSN: 2319-5622	IF 2.89
21.	Madhulika Singh and Priya Rathore	Study of In vitro Micropropagation and Multiple Shooting in <i>Brassica campestris</i> and <i>Trigonella foenum-graecum</i> .	J. Chem. Bio. Phy. Sci. Sec. B; Vol. 6, No.2; 527-532. (2016):	Yes	National	E-ISSN: 2249-1929	1.21
22.	Shobha Shrivastava, Shuchi Gupta	Multidrug Resistance: Emerging facts for society's Awareness: A Review.	Highbrow Vol 3 , Issue 1 : Oct 2016.	Yes	National	ISSN : 2350-1154	
23.	Neelam Singh and Madhulika Singh	Preliminary Photochemical Investigation of Ethanolic and Petroleum ether Extracts of <i>Rubia cordifolia</i> Leaves.	Asian Journal of Pharmaceutical Education and Research, Vol -4(3) (2015):	Yes	National	ISSN: 2278-7496	1.56

24.	Neelam Singh and Madhulika Singh	Comparative phytochemical analysis of ethanolic percolation and Decoction extracts <i>Acacia catechu</i> stem.	Current research in Biological and Pharmaceutical Sciences (CRBPS). Vol 4(2015) :	Yes	National	ISSN: 2319-7536	1.46
25.	Madhulika Singh and Varsha Sharma	Phytoremediation of Ultraviolet-Rays Induced Skin Damages by the Phytochemical Composition of Herbal Extracts.	International Journal of Pharmacognosy & Phytochemical Research, 7(6); 1086-1093 2015 .	Yes	International	ISSN: 0975-4873	2.12
26.	Madhulika Singh and Varsha Sharma	Preclinical efficacy of <i>Allium sativum</i> (L) on HIV positive ANC patients. Preclinical efficacy of <i>Allium sativum</i> (L) on HIV positive ANC patients.	British Biotechnology Journal. 10(3): 01-08. doi: 10.9734/BBJ/2016/21434. 2015 .	Yes	International	ISSN: 2231–2927	1.65
27.	Madhulika Singh, Priya Rathore and Arpita Shrivastava	In Vitro Proliferation of an Important Medicinal Plant <i>Aloe vera</i> .	Int. J. Green Herb. Chem. 4(2):193-199. (2015) .	Yes	International	E-ISSN:22 78-3229	SJIF-2.504 ISRA JIF-1.839
28.	Madhulika Singh, Protima Banerjee and Suchi Gupta	Biofilm formation as microbial development in <i>Staphylococcus aureus</i> , <i>Klebsiella sp.</i> and <i>Escherichia coli</i> .	Int. J. Green and Herbal Chem. 4(2): 200-207. (2015) .	Yes	International	E-ISSN:22 78-3229	SJIF-2.504 ISRA JIF-1.839
29.	Protima Banerjee, Madhulika Singh and Varsha Sharma	Biofilm Formation: A Comprehensive Review.	Int. Journal of Pharma Research and Health Sciences. 3(2), 556-560. (2015) .	Yes	International	ISSN: 2348-6465	--
30.	Madhulika Singh and Varsha Sharma	<i>In Vitro</i> Evaluation of Secondary Metabolites and Hydroxyl Radical Scavenging Efficacy of Different Extracts of <i>Cyprus rotundus</i> L. and <i>Rubia cordifolia</i> L.: Protection against Photodamages	Int. J. Res. Ayu. Pharma. 6(1):144-149. (2015) .	Yes	International	ISSN Online:2 229-3566	ICV-6.33
31.	Niharika Amrute Bhwasar and Madhulika Singh	Isolation and characterization of <i>Pseudomonas aeruginosa</i> from waste soybean oil as biosurfactants which enhances biodegradation of industrial waste with special reference to Kosmi Dam, Betul Dist. (MP)	International journal of advanced research. 2(6) :778-783 (2014) :	yes	International	ISSN-2320-5407	IF 4.588 IC 4.96
32.	Madhulika Singh, Varsha Sharma	Qualitative determination of phytonutrients for some medicinal plants: Significant for sunburn protection.	International Journal of Green and Herbal Chemistry. 3(3) B:1273-1280 (2014) :	Yes	International	E-ISSN:22 78-3229	0.801
33.	Madhulika Singh and Ekta Sharma	Novel and secure trend for Photo protection- A Hallmark of Plant Metabolites as UV filters.	International Journal of Recent Scientific (2014) :Research 5(2):322-325, (IJRSR – 933/2014).	Yes	International	ISSN-0976-3031	1.08
34.	P.K. Sikdar, M. Singh, and Subhra Biswas	<i>Oberonia cauescens</i> Lindl. (Orchidaceae)-A new report to Bay Islands from Mount Harriet National Park	Ind. J. Biot. And Pharm. Research. 2(1): 9-10. (2014) :	Yes	National	ISSN-2347-3266	2.658

35.	P.K. Sikdar, M. Singh, and Subhra Biswas	One new record of <i>Bulbophyllum</i> thou. (Orchidaceae) from Baratang for Andman Islands.	Ind. J. Biot. And Pharm. Research. 2(1): 11-12. (2014):	Yes	National	ISSN-2347-3266	2.658
36.	Madhulika Singh and Deepika Bhargava	Evaluation of secondary metabolites in <i>Aegle marmelos</i> , <i>Citrus lemon</i> , <i>C. reticulata</i> in Preclinical treatment of HIV Positive cases in the antenatal clinic women.	International Journal of Green and Herbal Chemistry. Vol. 3, No.1: 151-154(2014):	Yes	International	E-ISSN:2278-3229	0.801
37.	Madhulika Singh and Deepika Bhargava	Phytochemical screening of <i>Allium sativum</i> , <i>Moringa oleifera</i> , <i>Aloe vera</i> in Preclinical treatment of HIV Positive cases in the antenatal clinic women patients.	International Journal of Green and Herbal Chemistry. Vol. 3, No.1: 155-158 (2014):	Yes	International	E-ISSN: 2278-3229	0.801
38.	Madhulika Singh	Biochemical characterization of some pathogenic bacteria of Bhojwetland, Bhopal(MP).	Journal of Chemical, Biological and Physical Sciences. Vol.4, No. 1: 293-297(2014):	Yes	National	E-ISSN: 2249-1929	0.723
39.	Madhulika Singh	Isolation and Phylogenetic characterization of bacteria from Upper Lake, Bhopal.	Journal of Chemical, Biological and Physical Sciences. Vol. 4, No. 1:305-311(2014):	Yes	National	E-ISSN: 2249-1929	0.723
40.	Madhulika Singh and Ekta Sharma	Preliminary phytochemical investigation of <i>Berberis aristata</i> , <i>Acacia catechu</i> and <i>Ficus benghalensis</i> - Important medicinal plants for Photoprotection.	International Journal of Biological & Pharmaceutical Research 4(9): 614-617 (2014):	Yes	International	E-ISSN-0976-3651	1.34 IF IC 4.67

Ph. D. (Awarded) : Guided by Dr. Madhulika Singh

S. N.	Name	Year	Ph D Topic
1	Prasanta k.Sikdar	2010	Biodiversity and distribution pattern of Orchids of Andaman
2	Shubra Biswas	2011	Andaman and Nicobar Aborigines Folklore medicinal plants and their utility
3	Deepika Bhargava	2014	Phytochemical screening of some medicinal plants in preclinical treatment of HIV positive cases in all the Antenatal Clinic Women Patients.
4	Manpreet Kaur	2016	Bioactive constituents of medicinal plants in sickle cell disease A preclinical treatment alternative therapy
5	Tanveer Ahmad Batt	2016	In vitro Micro propagation and phytochemical screening of <i>Tinospora cordifolia</i> (wild) Miers ex Hook. F4 Thomas-a threatened medicinal plant
6	Neelam Singh	2017	Biodiversity of Medicinal plants and their Phytochemical study of certain important plants of Hoshangabad district.
7	Nidhi Thakur	2018	Bacterial diversity and molecular characterization of Upper lake, Bhopal with special reference to hospital waste effluents
8	Niharika Amrute Bhawsar	2019	Isolation and Characterization of <i>Pseudomonas aeruginosa</i> from Soyabean Oil waste as Bio- surfactants which Enhances Biodegradation of Industrial Waste with Special Reference to Kosmi Dam, Betul District, (M.P.)

Equipment procured in the Department of Botany and Biotech during last 5 years-

S.N.	Name of equipment	Source of Fund	Year of Purchase	Make
1.	PCR(Thermocycler)	DST-FIST	2019	HI-Media
2.	UV-VIS spectrophotometer	DST-FIST	2019	Systronics
3.	Orbital shaking incubator	DST-FIST	2019	-
4.	Digital electronic balance	DST-FIST	2019	WENSAR
5.	Digital pH meter	DST-FIST	2019	Electronics India
6.	GEL DOC SYSTEM	DST-FIST	2019	Biobee Tech
7.	pH meter	UGC	2014	TOSHNIWAL
8.	Olympus Research Binocular Microscope	UGC	2014	OLYMPUS
9.	Phase Contrast Microscope	UGC	2014	OLYMPUS

Alumni of the Department and Employment

S.N.	Year	Name	Present Post/Entrepreneur	Organization/Institute
1.	2020	Ms.Rekha Malviya	Medical Lab Technician	Gandhi Medical College Bhopal MP
2.	2019	Dr.Niharika Bhawsar	Asst. Prof. Microbiology	JH Govt. PG College Betul MP
3.	2018	Dr.Neelam Singh	PGT Biology (KV)	New Delhi
4.	2018	Dr.Nidhi Thakur	Lecturer	Secondary School Gurugram
5.	2017	Rahul Prajapati	Research Scholar	IISSR Kanpur UP
6.	2017	Dr.Manpreet Kaur	Scientific Officer Pathology Lab	Chirayu Medical College Bhopal MP
7.	2016	Dr.Deepika Bhargava	Research Scientist	Patanjali Rese. Insti. Haridwar UK
8.	2015	Ishani Chaterjee	Research Scholar	IISER Kolkata WB
9.	2014	Protima Banerjee	Research Associate	Synergy, Bangalore
10.	2014	Noopur Sharma	Astt. Prof. (Biotechnology)	S. V. college Sehore
11.	2014	Swati Pawar	Astt. Prof. (Biotechnology)	S. V. college Sehore
12.	2014	Yogendra Parmar	QC –OFFICER Handling HPLC	Medgel Pvt.ltd. Indore
13.	2013	Devendra Sahu	Office Asst.	ICICI Bank Bhopal
14.	2013	Sonam Paliya	Research Scholar	NEERI Nagpur MH
15.	2012	Shikha Jain	Astt. Prof. (Biotechnology)	RKDF University Bhopal

Significant Activities performed by Faculty : -

Dr.Madhulika Singh

- Member of BOS in Biotechnology in Barkatullah University 2017-2020
- IQAC Co-ordinator in College
- NAAC Co-ordinator 2014
- NAAC Co-ordinator 2021
- Exam Controller in Autonomous Cell-July 2016 to July 2019

Dr. Archana Lalwani

- Convenor UGC Cell

Dr. Shuchi Gupta

- Member in online admission cell