




## Faculty Details (Dr. Mamtesh Singh)

<b>Title</b>	<b>Dr.</b>	<b>First Name</b>	<b>Mamtesh</b>	<b>Last Name</b>	<b>Singh</b>	<b>Photograph</b> 
<b>Designation</b>	<b>Assistant Professor</b>					
<b>Address (Office)</b>	Department of Zoology Gargi College (University of Delhi), New Delhi 110049					
<b>Contact No. (Mobile)</b>	-					
<b>Email</b>	mamtesh@gargi.du.ac.in					
<b>EDUCATIONAL QUALIFICATIONS</b>						
<b>Degree</b>		<b>Institution</b>			<b>Year</b>	
Ph.D. (Biotechnology)		CSIR-Institute of Genomics & Integrative Biology (IGIB)			2012	
M.Sc. (Zoology)		Department of Zoology, University of Delhi			2006	
B.Sc. (H) Zoology		Zakir Husain College, University of Delhi			2004	
<b>CAREER PROFILE</b>						
2015-till date	Assistant Professor, Department of Zoology, Gargi College (University of Delhi)					
2014-2015	Assistant Professor (Ad Hoc), Department of Zoology, Gargi College (University of Delhi)					
2013	Assistant Professor (Ad Hoc), Department of Zoology, Daulat Ram College (University of Delhi)					
2012-2013	Guest Lecturer, Department of Zoology, Daulat Ram College (University of Delhi)					
<b>ADMINISTRATIVE ASSIGNMENTS</b>						
<ul style="list-style-type: none"> <li>• <b>Convener</b> of college website committee 2021-2023</li> <li>• Member of College Website committee (since session 2018-2019); college magazine committee (since 2021); Departmental committees for maintenance of equipment, microscope, museum etc</li> <li>• Member of the departmental admission committee B.Sc. (H) Zoology (2020), B.Sc. Life science (2023), Pathfinder committee (for undergraduate research opportunity) (since 2022).</li> <li>• Examiner/evaluation/invigilation in practical/theory examinations (University of Delhi).</li> <li>• Arranged study/field visit for undergraduate students, participated in Campus Bird count in Gargi College.</li> <li>• Discipline duties assigned in Gargi college annual fest/science fest/cultural fest etc. every year.</li> </ul>						
<b>AREAS OF INTEREST / SPECIALIZATION</b>						
<ul style="list-style-type: none"> <li>• Microbial production of bioproducts (biopolymer, biofuel)</li> <li>• Biowaste hydrolysis biodegradation and utilization for bioproducts</li> <li>• In silico analysis of microbial products metabolism</li> </ul>						

- Network biology application in biology microbial products and diseases

### SUBJECT TAUGHT

Evolutionary Biology, Perspectives of Ecology, Non Chordata, Chordata, Biochemistry

### RESEARCH GUIDANCE

- Ph.D. (Supervisor): 01 (ongoing)
- PhD (co-supervisor): 01(awarded; 2023)
- Rresearch scholar (JRF): 01 (ECRA project 2018-2022)
- Masters: 01 (ongoing training)
- Undergraduate students: ~ 10 from B.Sc. (H) Zoology, B.Sc. (H) Botany, B.Sc. (P) Lifescience, B.Sc. (H) Microbiology under Minor Innovation project 2015-2016 funded by University of Delhi  
~ regularly as training to undergraduate students under short term research project

### REFRESHER COURSE/ORIENTATION PROGRAMME/FACULTY DEVELOPMENT PROGRAMMES ATTENDED:

- **26<sup>th</sup> Refresher course** in Life Science & Biotechnology (online), organized by UGC-HRDC JNU, New Delhi on December 6-18, 2021
- **Online Faculty Development Programme** on “Research methodology: Tools & Techniques” under PMMMNMTT scheme, MHRD, Govt. of India organized by Atma Ram Sanatan Dharma College, Delhi on June 5-11, 2020.
- **Online workshop** on “Design, Develop and Deliver Online Courses with Moodle Learning Management System” organized by UGC-HRDC JNU, New Delhi on April 30-May 1, 2020.
- **6<sup>th</sup> Refresher course** in contemporary studies (Natural and Social Sciences) (IDC), December 9-21, 2019 at HRDC, Jawaharlal Nehru University, Delhi
- **One week 1st workshop** on “MOOCs, e-content development and open educational resources”, March 18-23, 2019 at HRDC, Jawaharlal Nehru University, Delhi
- **Faculty development Programme** in NAAC sponsored seven day National workshop on “Skill enhancement at Institutions of higher learning: Training today for tomorrow”, January 7-13, 2019 at Kalindi College, Delhi
- **11<sup>th</sup> orientation programme**, October 8 - November 2, 2018 at HRDC, Jawaharlal Nehru University, Delhi

### PUBLICATIONS PROFILE

Title	Author's Name	Journal	Detail	Year
Modeling of Second-Line Drug behavior in Tuberculosis using Petri net	Jha M, Singh M, Singh GP	International Journal of System Assurance Engineering and Management	13: 810-819	2022
Exploiting Biological Waste Hydrolysate for its Management and Biological Polymer Production: Parameter Optimization and Biological Process Modeling	Tyagi S, Singh M, Singh GP, Afreen R, Kaushik N, Pruthi A, Kaur D, Chosnit D, Tyagi S.	Journal of Environment and Bio-Science	35(1): 1-10	2021
Challenges and Perspectives of	Afreen R, Tyagi S,	Frontiers in	9: 109	2021

Polyhydroxyalkanoate Production From Microalgae/ Cyanobacteria and Bacteria as Microbial Factories: An Assessment of Hybrid Biological System	Singh GP, <b>Singh M*</b>	Bioengineering and Biotechnology ISSN: 2296-4185		
Modeling the mechanism pathways of first line drug in Tuberculosis using Petri nets	Singh GP, Jha M, <b>Singh M</b> , Naina	International Journal of System Assurance Engineering and Management	11: 313-324	2020
Challenges and Opportunities for Customizing Polyhydroxyalkanoates	<b>Singh M*</b> , Kumar P, Ray S, Kalia VC	Indian Journal of Microbiology ISSN: 0973-7715	55(3): 235–249	2015
Integrative approach to produce hydrogen and polyhydroxybutyrate from biowaste using defined bacterial cultures	Patel SKS, Kumar P, <b>Singh M</b> , Lee JK, Kalia VC	Bioresource Technology ISSN: 0960-8524	176: 136-141	2015
Ecobiotechnological approach for exploiting the abilities of <i>Bacillus</i> to produce copolymer of polyhydroxyalkanoate	Kumar P, <b>Singh M</b> , Mehariya S, Patel SKS, Lee JK, Kalia VC.	Indian Journal of Microbiology ISSN: 0973-7715	54: 151-157	2014
Production of polyhydroxy alkanoate co-polymer by <i>Bacillus thuringiensis</i>	<b>Singh M</b> , Kumar P, Patel SKS, Kalia VC	Indian Journal of Microbiology ISSN: 0973-7715	53: 77-83	2013
Exploitation of defined bacterial cultures for production of hydrogen and polyhydroxybutyrate from pea-shells	Patel SKS, <b>Singh M</b> , Kumar P, Purohit HJ, Kalia VC.	Biomass and Bioenergy ISSN: 0961-9534	36: 218-225	2012
Hydrogen and polyhydroxy butyrate producing abilities of <i>Bacillus</i> spp. from glucose in two stage system	Patel SKS†, <b>Singh M</b> †, Kalia VC. (†:Equal contribution)	Indian Journal of Microbiology ISSN: 0973-7715	51: 418-423	2011
<i>Bacillus subtilis</i> as potential producer for Polyhydroxyalkanoates	<b>Singh M</b> , Patel SKS, Kalia VC.	Microbial Cell Factories ISSN: 1475-2859	8: 38	2009
Potential of <i>Bacillus</i> sp. To produce polyhydroxybutyrate from biowaste	Kumar T, <b>Singh M</b> , Purohit HJ, Kalia VC.	Journal of Applied Microbiology ISSN: 1365-2672	106: 2017-2023	2009

### Book/Report/Chapter

Title	Author's	Publisher	Year
<b>EDITED BOOK:</b> Microbial Products Applications and Translational Trends	<b>Singh M</b> , <u>Singh GP</u> , Tyagi S.	CRC Press, Taylor & Francis. ISBN 9781032308203	2022
Eco-design for enhancing PHA polymer production ability of Cyanobacteria	Sharma K, Sharma P, Jyoti, Bandral A, Tyagi S, Singh M	Accepted In Futuristic trends in Renewable and sustainable Energy. Iterative International Publishers (IIP), India	2024
Petri net Modeling of Clinical Diagnosis path in Tuberculosis, page 401	Singh GP, Jha M, <b>Singh M</b>	Advances in Interdisciplinary Research in Engineering and Business Management, Asset Analytics Performance and safety Management, Eds. P.K. Kapur, Gurinder singh, Saurabh Panwar, ISBN 978-981-16-0037-1 (eBook)	2021

Applications of Petri net Modeling in Diverse Area	Singh GP, Jha M, <b>Singh M</b>	Mathematical Modelling, Computational Intelligence Techniques and Renewable Energy, In: Advances in Intelligent Systems and Computing, Springer Nature, Singapore, 1287	2020
A Graph Theoretic Analysis on Functional EEG Network in I graph R.	Singh GP, Anthony ER, <b>Singh M</b> , Naina	In: Chapter 42, Decision Analytics Applications in Industry, (Ed. P.K. Kapur, Gurinder Singh, Yury S. Klochkov, Uday Kumar) Springer Book chapter, pp. 541-555, ISBN: 978-981-15-3643-4 (eBook), <a href="https://doi.org/10.1007/978-981-15-3643-4">https://doi.org/10.1007/978-981-15-3643-4</a>	2020
Statistics in Research-II.	Singh GP, <b>Singh M</b>	Textbook of Research Methodology. Rastogi Publication	2020
The Dawn of Novel Biotechnological Applications of Polyhydroxyalkanoates.	Kalia VC, Ray S, Patel SKS, <b>Singh M</b> , Singh GP	In <i>Biotechnological Applications of Polyhydroxyalkanoates</i> (pp. 1-11). Springer	2019
Applications of Polyhydroxyalkanoates and Their Metabolites as Drug Carriers.	Kalia VC, Ray S, Patel SKS, <b>Singh M</b> , Singh GP	In <i>Biotechnological Applications of Polyhydroxyalkanoates</i> (pp. 35-48). Springer	2019
Biotechnological application of polyhydroxyalkanoates and their composites as antimicrobials agents.	Patel SKS, Sandeep, K., <b>Singh M</b> , Singh GP, Lee, J. K., Bhatia, S. K., Kalia VC	In <i>Biotechnological Applications of Polyhydroxyalkanoates</i> (pp. 207-225). Springer	2019
Exploiting Polyhydroxyalkanoates for Tissue Engineering.	Ray S, Patel SKS, <b>Singh M</b> , Singh GP, Kalia VC	In <i>Biotechnological Applications of Polyhydroxyalkanoates</i> (pp. 271-282). Springer	2019
Integrative approach for biohydrogen and polyhydroxy alkanoate production	Patel SKS, Kumar P, <b>Singh M</b> , Lee JK and Kalia VC.	In <i>Microbial Factories</i> Springer India. ISBN 978-81-322-2597-3	2015

#### E CHAPTERS/STUDY MATERIALS

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#### PAPERS PRESENTED IN INTERNATIONAL/NATIONAL CONFERENCES/SEMINARS/SYMPOSIA

- **Invited talk:** “Bacterial biopolymer as green alternative: Limitations and Prospectives” in National Seminar “वैज्ञानिक और तकनीकी शब्दावली के विकीकरण से विज्ञान/Science- with Lens of Scientific & Technical Terminology” organised by Shyam Lal College, Delhi and Commission for Scientific and Technical terminology (CSTT), MHRD, Govt. of India held on January 29-30, 2020.
- **Oral presentation:** “Going green ways with bacterial biopolymer - Limitations and prospectives” in National conference CIPSE-2016, Gargi College.

#### CONFERENCE/SEMINARS/SYMPOSIA/WEBINARS/PRESENTATIONS/ORGANIZATION

- **Convener** for National Seminar “सतत पर्यावरण विकास: इसकी चुनौतियों, अभिकल्पना विशेषण और अवसरों में वैज्ञानिक और तकनीकी शब्दावली का उपयोग”/“use of scientific & technical terminologies

<p>in sustainable environment development, its challenges, computational analysis and opportunities” organised by Department of Zoology, Gargi College, Delhi and Commission for Scientific and Technical terminology (CSTT), MHRD, Govt. of India held on March 14-16, 2019.</p> <ul style="list-style-type: none"> <li>• <b>Resource person</b> in “2nd Hands-on workshop on Bioinformatics”, April 22, 2019 at Gargi College, Delhi</li> <li>• Resource person in summer workshop (2014) on Interdisciplinary sciences under star college scheme, DBT at Gargi College.</li> </ul>
<p><b>WORKSHOP/TRAINING PROGRAMME ATTENDED</b></p>
<p><b>6th Workshop</b> (2016) on Bioinformatics and Molecular Modeling in Drug Design, ACBR</p>
<p><b>RESEARCH PROJECTS (MAJOR GRANTS/RESEARCH COLLABORATION)</b></p>
<ul style="list-style-type: none"> <li>• <b>Co-Supervisor</b> in ICMR funded project “Petri Net Modelling and Study in Network Biology as an Aid in Drug Repurposing” for three years from February 2023 in collaboration with Dr. G. P. Singh (Supervisor) SCIS, JNU, New Delhi.</li> <li>• <b>Principal Investigator in SERB funded project</b> (2018-2022) under Early career Award scheme (ECRA) “Exploiting Bacillus, the microbial work-horse for biowaste utilization, biopolymer and biofuel production: Integrative and customised approach</li> <li>• <b>Innovation project 2015-2016</b> as co-PI, funded by University of Delhi, “Eco-biotechnological approaches for biowaste utilization: Biopolymer and Biofuel” at Gargi College.</li> <li>• <b>Short term projects (DBT start college scheme) as PI</b> for undergraduate students in year 2014 “Biochemical characterization of bacterial isolates for their application in biowaste hydrolysis” and “Exploring microbial diversity for biosurfactant production”.</li> </ul>
<p><b>AWARDS AND DISTINCTIONS</b></p>
<ul style="list-style-type: none"> <li>• <b>Young Scientist Award</b> by National Environmental, Science Academy (NESA)- INDIA for year 2018</li> <li>• <b>AMI-Prof. J. V. Bhat award 2011-2012 for best paper</b> Patel et al., 2011 (Shared first authorship) in Indian Journal of Microbiology Association of Microbiologist of India, in 2012</li> <li>• Qualified <b>CSIR-UGC NET-JRF 2005</b> exam for JRF (Junior Research Fellowship), UGC 2006-2008</li> <li>• Awarded <b>Senior Research Fellowship (SRF)</b> UGC 2008-2011</li> <li>• Scholarship and certificate for securing first position in the college in B.Sc. (H) Zoology 1st year Zakir Husain College 2001-2002</li> </ul>
<p><b>ASSOCIATION WITH PROFESSIONAL BODIES</b></p>
<p>AMI (Lifetime member), NESA (Lifetime member), INBA (Lifetime member), ASM (2010-2011)</p>
<p><b>OTHER ACTIVITIES</b></p>
<ul style="list-style-type: none"> <li>• Resource person for IGNOU Centre, Gargi College (May 2014, 2015, 2016, 2018 and 2019).</li> <li>• <b>~20 conferences/Seminar attended as participant</b></li> </ul>