

**Samriti Dhawan**

Assistant Professor

Department of Biotechnology

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**Educational Qualifications**

**Ph.D., Biotechnology (2012)** Department of Biotechnology, Panjab University, Chandigarh. Ph.D. Thesis: *Production, Purification and Characterization of  $\beta$ -mannanase from a thermotolerant bacterial isolate*. Ph.D. Supervisor: (Prof.) Dr. Jagdeep Kaur.

**CSIR (JRF)-UGC (NET)** in 1999.

**M.Sc. Biotechnology (1997)** Punjabi University, Patiala,

**Professional and Teaching Experience**

Jan.1999 – Present	Asstt. Professor, GGDS COLLEGE, CHANDIGARH.
Feb.1998- Aug. 1998	Microbiologist in Quality Services Laboratory, Pepsi Foods Ltd. Vill. Channo, Patiala.

**Priority Area of Research**

Immunology, Enzymology and Genetic engineering.

Microbial enzymes of Industrial importance: Production, Purification & Applications.

Bioactive molecules from microbes and their applications.

**Completed Major/Minor Projects**

- As a Principal Investigator on an interdisciplinary project under DBT's programme *for the use of Foldscope as an Educational and Training tool*. The project is a joint collaboration between University of Stanford, USA and Department of Biotechnology, Ministry of Science and Technology, Govt. of India and has been awarded a grant of Rs 4, 00,000 lakh
- As a Co-Investigator on a Project, *"Physico-Chemical Characterization of effluents and Toxicity study of Lead as a pollutant in samples collected from*

*different industries in and around Chandigarh*". It was funded by DST, Chandigarh Admn. A grant of Rs. 1, 25,000 was sanctioned.

- As a Principal Investigator on a minor research project, "Isolation, screening and production of  $\beta$ -mannanase from bacterial isolates for biotechnology application." funded by UGC. A grant of Rs. 2, 00,000/- was sanctioned.
- As a Co-investigator on a minor research project, "isolation, screening of PHA producing bacteria from diverse areas of Chandigarh, was funded by DST, Chandigarh Admn. A grant of Rs. 70, 000 was sanctioned.
- As a Co-investigator on a research project, "Microbial and biochemical studies of different water including sewage water (containing Industrial effluent) in and around Chandigarh with the focus on plant growth", was funded by DST, Chandigarh Admn. A grant of Rs. 70, 000 was sanctioned.

### **On-going Projects:**

As a Principal Investigator on a Project- To Study the Potential of Plant and Agri residues for removal of dyes from effluents and Waste water". It was funded by DST, Chandigarh Admn. A grant of Rs. 50,000 was sanctioned.

### **Publications**

#### **Journal Publications**

Dhawan, S., Kaur, J. (2007). Microbial Mannanases: an overview of Production and Applications. *Critical Reviews in Biotechnology*, 27(4), 197-216.

ISSN: 0738-8551.

Singh, R., Dhawan, S., Singh, K., and Kaur, J. (2012). Cloning, expression and characterization of a metagenome derived thermoactive/thermostable pectinase.

*Molecular Biology Reports*, 39 (8), pp 8353-8361. DOI 10.1007/s11033-012-1685-x

ISSN: 0301-4851.

Dhawan, S., Singh, R., Kaur, R, Kaur, J. (2016). A  $\beta$ -mannanase from *Paenibacillus* sp.: optimization of production and its possible prebiotic potential. *Biotechnology and Applied Biochemistry*, Vol: 63 (5) Pp: 669–678. DOI: 10.1002/bab.1419. ISSN:

0885-4513

Dhawan, S (2018). An Overview of Filamentous Bacteriophages for Phage display and its potential clinical applications. *Int. J. Res. Pharm. Sc.* 9(2), 415-422.

ISSN: 0975-7538.

Dhawan , S. (2021). Purification of a Thermostable  $\beta$ -mannanase from *Paenibacillus thiaminolyticus* – Characterization and its Potential Use as a Detergent Additive. *J Pure Appl Microbiol.* 2021; 15(1):368-381. <https://doi.org/10.22207/JPAM.15.1.31>  
ISSN: 0973-7510,

Dhawan, S and Dua J. (2021). Foldscope™ as a Teaching and Learning Tool: An Indian Perspective. *Bioscene* Vol. 47 (1): 64-71. ISSN 1539-2422.

Sharma, V. Ramachandran, R. Dhawan Samriti and Kaur J. (2023). Orlistat Induced Endoplasmic Reticulum Stress Mediated Apoptosis and Protective Autophagy in PANC-1 Cells: The Key Role of JNK and Mitochondrial Dependent Signalling. *Acta Scientific. Pharma. Sci.* Vol. 7 (7) : 54-63. ISSN: 2581-5423

Sharma, V. Kumar, A. Dhawan Samriti and Kaur J. (2023). P19 a parthenin analog induces cell lineage dependent apoptotic and immunomodulatory signaling in acute lymphoid leukemia cells. *International Journal of molecular and cellular medicine.* 12(1):1-17. pISSN: 2251-9637, eISSN: 2251-9645.

### **Book Chapters:**

Dhawan Samriti, Sharma, V and Kaur J. (2024). Recent Immunotherapeutic Approaches to Cancer Treatment. In *Molecular Biomarkers for Cancer Diagnosis and Therapy*. Springer Nature Singapore Private Limited. ISBN: 978-981-99-3745-5. 10.1007/978-981-99-3746-2\_25.

Dhawan Samriti and Dua J (2024). Scope of Millet cultivation in Punjab-An Overview In *Sustainable Development in India: Strategies and Way Ahead*, ISBN: 978-81-970010-1-7.

Dhawan Samriti and Dua J (2024). Explorations on *Coix lacryma-jobi L.* – a forgotten millet with great potential., In *Biosustainability: Concerns and Challenges*. By Kerala State Biodiversity Board, Thiruvananthapuram. ISBN: 978-81-7255-174-2

Dhawan Samriti and Dua J. (2022). A Gizmo To Facilitate Learning In The Real World –Students’ Opinion In “Foldscope & its Applications. Vol.-II "National Press Associates. Pg.168-173. ISBN: 978-93-90863-51-8.

Dhawan Samriti (2018). Noise and microbial pollution. In “*Environment, Road Safety Education and Violence against Women and Children, Drug Abuse*” Mohindra Publishing House, ISBN: 978-93-86558-26-8.

Dhawan Samriti (2017). Noise pollution. In *“Environment, Road Safety Education and Violence against Women and Children” Mohindra Publishing House, ISBN: 978-93-82068-29-7.*

Dhawan, Samriti (2015). Microbial Production of PHA. ISBN: 978-93-85777-01-1 (*IUKWSPA 2015*), Patiala, India.

Dhawan Samriti (2014). Higher education in science: Challenges. In *“Challenges in Higher Education: An Inclusive Perspective.” Neha Publishers. Pg.286-292. ISBN: 978-93-83316-03-8.*

### **Oral and Poster Presentations**

Presented papers at international, National and Regional level are:

#### **International**

Dhawan, Samriti Dua J. (2021). A Pedagogical Tool for Effective Teaching and Learning in Biological Science. In *Proc of 65th Annual meeting of Association of College and University Biology Educators, (ACUBE) on 16<sup>th</sup> Oct, 2021, organized by University of Portland, USA.*

Dhawan, Samriti, Kaur R, Kaur J (2015). A thermostable  $\beta$ -mannanase from *Paenibacillus thiaminolyticus*: purification, characterization and its application. In *Proc of 37th Symposium on Biotechnology for Fuels and Chemicals (SBFC-2015), 27<sup>th</sup> -30<sup>th</sup> April, 2015, San Diego, USA.*

#### **National**

Jashandeep Singh and Dhawan Samriti (2024). HLA–B27 Association with Ankylosing Spondylitis: Some insights and Future Perspectives, in International Seminar on Lab to Field: Need for Translational Research held at GGSDS College, Chandigarh on 9<sup>th</sup> Jan. 2024.

Shivani Saini, Dua J, Dhawan, Samriti, (2022). Effect of lead toxicity on growth parameters of wheat in National Conference ON "Current Scientific Innovations and Research in Plant Biology" CSIR-PB 2022, held at Eternal University, Himachal Pradesh on 27-28<sup>th</sup> May. 2022.

Dhawan Samriti, Srishti, Preeti and Dua J. (2020). “An Innovative teaching and learning tool-its Explorations,” in National Symposium On "Biotechnology: Trends and Innovations, held at GGSDS College, Chandigarh on 7-8 Feb. 2020

Dhawan, Samriti, Dua J (2019). A simple pest identification tool for its Potential application in agriculture” in NATIONAL SYMPOSIUM ON "Recent advances in Agriculture and Plant sciences" RAPAS 2019, held at SGGSWU, Punjab on 15-16<sup>th</sup> Mar. 2019.

Dhawan Samriti, Shubhangi, Dipti and Dua J. (2018). A Frugal Microscope-Foldscope and its multifarious applications. *In Proc of Nat Conf. BiocAMP, 1<sup>st</sup> -2<sup>nd</sup> Nov. 2018, Panjab University, Chandigarh organized by, Department of Biotechnology, Society for Biological Engineering (SBE-UIET), Panjab University, Chandigarh Sponsored by – TEQIP-III.*

Dhawan, Samriti, Dua J (2015). Microbial Production of PHA from Bacterial Strains isolated from Landfill Sites and Sukhna Lake water. . *In Proc of International Indo-UK workshop on sustainable polymer applications (IUWSPA-2015) 8<sup>th</sup>-9<sup>th</sup> Dec. 2015. Thapar University, Patiala.*

Dhawan Samriti and Dua J. (2014). Isolation and screening of poly-hydroxyalknoate producing bacteria from diverse habitats of Chandigarh. *In Proc of Nat Conf. Emerging Horizons Sc. And Technol. (EHST-2014); SGGSWorld Univ. Punjab.*

Dua J and Dhawan Samriti. (2014) Incidence of Alzheimer’s in India and its social implications *In Proc of Nat Conf. Emerging Horizons Sc. And Technol. (EHST-2014); SGGSWorld Univ. Punjab.*

Dhawan Samriti and Kaur N. (2012). Isolation and characterization of alkali tolerant xylanase from bacterial endophyte. *In Proc of Nat Symp on Biotechnology: Research and Development GGSDS College, Chandigarh.*

Samriti Dhawan and AK Ahluwalia (2010) Isolation and Screening of Endophytes from Medicinal Plants for Potential Biotechnological Applications. *In Proc of Nat Conf. Biotechnica, Chandigarh-2010.*

Dhawan, S, Kaur J (2008). Mannan Degrading Enzyme from *Paenibacillus* Species: Isolation and Properties of a Thermotostable Beta-Mannanase. *In Proc of Nat. Chd. Sci Cong (CHASCON-2008).*

Dhawan, S. (2007) Role of three dimensional biodegradable scaffolds in tissue Engineering. *In Proc of Nat. Symp. Adv.in Biotechnol. , GGSDS College, Chandigarh, Feb.3, pp 8-9.*

Dhawan, S. (2007) Bacterial expression systems for recombinant protein production. *In Pros of Nat symp on Pharmaceutical Sc and Pharmacoinformatics, GGSDS College, Chandigarh, Feb.10, pp 54.*

Neelam Verma and Samriti (1998) Studies on the development of Biochemical Oxygen Demand (B.O.D) biosensor for monitoring paper pulp and Dairy industry effluents. *In Proc of Pittcon, 98*; Louisiana, USA.

### **Invited Talks**

Delivered a talk on Immune system demystified- A long Journey in the webinar at Arka Jain University, Jharkhand in January 2023

Delivered a talk and conducted workshop on Textile Fibre Testing using microscopic tools in Department of FTD, GGSDS College, in August 2023.

Delivered a talk on Foldscope and its applications in Advanced Techniques in Microbial Systematics held at Imtech Chandigarh in November 2018.

Delivered a talk on Use of Frugal Technologies of Science at NSS camp organized by GGSDS college NSS Unit in December 2018.

Resource person in various schools and educational institutes

In SBS Govt. senior secondary School, Majatri (SAS Nagar), Punjab.

In GMSS School, Manimajra in Oct. 2008 delivered a talk on “Biotechnology – An emerging Area.

In GMSS School, sec 23-Chandigarh in May 2006 and delivered a talk on “Role of Biotechnology in India.”

### **Editor and Reviewer**

**Reviewer** of manuscripts or proposals submitted to the peer reviewed international journals and national Journals.

**Reviewed** chapters of the book, The Elements of Immunology by Fahim Halim Khan published by Pearson education in 2008.

**Editor** of a book on “Environment, Road Safety and Violence against women and children” Published by Mohindra Publishing House.

**Editor** of a book on, “Foldscope & its Applications. Vol.-II published by *National Press Associates*. ISBN: 978-93-90863-51-8.

### **Workshops Organized**

As part of Completed Foldscope Project a series of workshops were conducted in association with Dr. Jasveen Dua (Co-PI) for postgraduate and undergraduate students of Biotechnology and Bioscience students to train them for foldscopy, under the Foldscope project of DBT.

### **Refresher Courses/Workshops/ Training Programmes/FDP Attended:**

- Three weeks winter school/Refresher course at Academic Staff College Panjab University, Chandigarh organized by UGC on 4<sup>th</sup> Dec.-24<sup>th</sup> Dec., 2013.
- -Four weeks 94<sup>th</sup> orientation Course at Academic Staff College Panjab University, Chandigarh organized by UGC from 3 may-30<sup>th</sup> May 2012.
- Attended a two- day Training workshop on, “Information Security in Indian Biotechnology Workshop” held at Department of Biotechnology, Panjab University, Chandigarh from 1-2<sup>nd</sup> Nov., 2023. It was organized by Sandia National Laboratories, USA.
- Attended two week FDP on NEP 2020 Orientation and Sensitization Programme under MM-TTP of UGC organized by UGC-Mission Malaviya Teacher Training Centre, National Institute of Educational Planning and Administration, New Delhi from 20-29<sup>th</sup> Nov. 2023.
- Attended a Training workshop/FDP on, “Biological Data Analysis and Data Science,” held at Department of Biotechnology, GGSD College, Chandigarh from Feb.27-Mar. 4<sup>th</sup> , 2020. It was sponsored By RUSA UGC.
- Attended a week long Training workshop on, BIOSAFETY RISK MANAGEMENT held at Department of Biotechnology, Panjab University, Chandigarh from 3-7<sup>th</sup> June, 2019. It was organized by National Sandia Laboratories, USA.
- Attended one week Hands on Training workshop on, Advanced Techniques in Microbial Systematics held at Institute of Microbial Technology, Chandigarh from 26-30<sup>th</sup> November 2018.
- Attended One day workshop/Short term course for Principal Investigators of Govt Funded projects on May 13<sup>th</sup> 2019 at HRDC, Panjab University, Chandigarh.
- Attended Foldscope Orientation Workshop at ICGEB, New Delhi on 16-17<sup>th</sup> April, 2018, organized by DBT, Ministry of Science and Technology, Govt. of India.
- Attended FDP Organized by University of The Fraser Valley and GGSD College, Sector 32, Chandigarh from April 29 to May 03, 2013.
- Attended Hands on Training Workshop/FDP on Molecular Biology & Cytogenetic Techniques from Dec. 3-15, 2012.

### **MOOC/Online Courses:**

- Completed 3 week On-line course organized by Future learn online course on –“How To Teach Online” from April, 23<sup>rd</sup> to 10<sup>th</sup> May, 2020.
- Completed one week MOOC course organized by RK University on “COVID-19: The pandemic” from May, 10<sup>th</sup> to 15<sup>th</sup> 2020.
- Completed 6 weeks course on “Next Generation Biosecurity: Responding to 21st Century Biorisks,” organized by University of Bath and Biosecure, England from Oct. 2020 to Dec.2020.
- Completed 4 weeks virtual course on Vaccine Production: Basics, pitfalls and trouble shooting organized by Pune Knowledge Cluster in partnership with Serum Institute of India Pvt. Ltd, Pune from Jan. 15<sup>th</sup> to Feb. 5<sup>th</sup> 2021.
- -Attended online Workshop on Science, Technology and Innovation Policy for Transformative Change organised by Science Policy research Unit, University of Sussex, UK (SPRU) & Department of Science and Technology - Centres for Policy research (DST CPRs) on February 18-19, 2021.
- -Attended the webinar "Virtual Classroom - Enhance Teaching through Learning Management System (LMS)" on 15<sup>th</sup> June, 2021.
- -Attended Journal Citation Reports JCR training course and Certification series 2021 organized by Clarivate in June 2021.
- -Attended Journal Citation Reports JCR training course and Certification series 2022 organized by Clarivate in August 2022.

### **Administrative Experience**

- Member, Postgraduate Board of Studies in in Biotechnology, Panjab University, 2023-2025
- Member Undergraduate Board of Studies in Biotechnology Panjab University, 2023-2025.
- Sub registrar (Science) 2019-2021
- Staff Secretary, GGSDS College 2023-2025
- Incharge (Science) Career Counseling Cell
- Successfully conducted University and College Exams as Assistant, Deputy and Centre Superintendent.
- Actively involved as Member, Organizing Committee in departmental International and National Seminars and Symposia.