

Dr. Sayanti Mandal



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PROFESSIONAL EXPERIENCE

October 2019- May 2020

Pune, Maharashtra

Assistant Professor (Contract)

Institute of Bioinformatics & Biotechnology, Savatribai Phule Pune University

Subjects taught

- Metabolic pathways in plants
- Microbial Biotechnology-II
- Plant-pathogen interaction (Fungal)

Practical

- Arabidopsis: Model organism
- Bioinformatics

- Supervise and train scientists, research assistants, interns, and students in the science lab setting.
- Attended industry conferences and events throughout the country to represent the organization and its goals.
- Supervised a team of student interns throughout their work in a biological lab as they used experiences to earn college credit.
- Procurement of high-end instruments for Central Instrument Facility (CIF) and bioinformatics lab for research and development.
- To organize short-term courses/workshops on the use and application of various instruments and analytical techniques.

June 2019-September 2019

Pune, Maharashtra

Assistant Professor (Contract)

Dr. D.Y. Patil Arts, Commerce and Science College

- Delivered scheduled lectures and practical's to Microbiology and Microbial Biotechnology lectures to F.Y.BSc and T.Y.BSc respectively.
- Administering examinations and assessing student learning.
- Keep thorough records of student scores and attendance.

July 2017-June 2018

Pune, Maharashtra

Teaching Associate (Contract)

Institute of Bioinformatics & Biotechnology, Savatribai Phule Pune University

- Managing and co-ordinating in the teaching and practical program for the 5/6 year M.Sc. / M. Tech integrated the program.
- To carry out analysis of samples received from faculty members of the institute, other academic institutions & industry.
- To maintain and operate high end instruments in Central Instrument Facility (CIF) and bioinformatics lab.

- To organize short-term courses/workshops on the use and application of various spectroscopic and analytical techniques for students, scientists and technical personnel from our University, affiliated institutions, universities and industry in the region.
- Collaborating with industrial firm to provide support for research and development.

PUBLICATION

- **Mandal S**, Ghorai M, Anand U, Roy D, Kant N, Mishra T, Mane AB, Jha NK, Kumar Lal M, Kumar Tiwari R, Kumar M, Radha, Ghosh A, Bhattacharjee R, Proćkó J and Dey A. Cytokinins: a genetic target for increasing yield potential in the CRISPR era. **Frontiers in Genetics**. 2022 (Accepted)
- Nazir R, **Mandal S**, Mitra S, Ghorai M, Das N, Jha NK, Majumder M, Pandey DK, Dey A. CRISPR/Cas genome-editing toolkit to enhance salt stress tolerance in rice and wheat. **Physiologia Plantarum**, 2022 Jan 31:e13642 (<https://doi.org/10.1111/ppl.13642>) Epub ahead of print. PMID: 35099818.
- Verma AK, **Mandal S**, Tiwari A, Monachesi C, Catassi GN, Srivastava A, Gatti S, Lionetti E, Catassi C (2021), Current Status and Perspectives on the Application of CRISPR/Cas9 Gene-Editing System to Develop a Low-Gluten, Non-Transgenic Wheat Variety. **Foods**, MDPI, 10(10):2351 (<https://doi.org/10.3390/foods10102351>)
- **Mandal, S.**, Verma, A.K. Wheat Breeding, Fertilizers, and Pesticides: Do They Contribute to the Increasing Immunogenic Properties of Modern Wheat? **Gastrointest. Disord**, MDPI, 2021, 3, 247-264 (<https://doi.org/10.3390/gidisord3040023>)
- **Mandal S**, Rajarammohan S and Kaur J (2019), ROS accumulation and associated cell death correlates with susceptibility to *Alternaria brassicae* in *Arabidopsis* accessions. **Physiological and Molecular Plant Pathology**, Elsevier, ISSN 0885-5765, Volume 107; Pages 51-59 (<https://doi.org/10.1016/j.pmpp.2019.06.001>)
- **Mandal S**, Rajarammohan S and Kaur J (2018), *Alternaria brassicae* interactions with the model Brassicaceae member *Arabidopsis thaliana* closely resembles those with Mustard (*Brassica juncea*). **Physiology and Molecular Biology of Plants**, Springer, ISSN 0971-5894, Volume 24; Pages 51-59 (<https://doi.org/10.1007/s12298-017-0486-z>)

RESEARCH SKILLS

- **Molecular Biology:** General molecular biology procedures including PCR, Real-Time PCR (Quantitative-PCR), TOPO cloning, preparation and identification of nucleic acids (DNA and RNA)
- **Plant tissue Culture:** *Agrobacterium*-mediated transformation of *B. juncea* and rising, maintain transgenic plant of *Brassica juncea* (Varuna) in containment net house
- **Plant-fungal staining methods:** Aniline blue, Coomassie blue, DAB, NBT, and Trypan blue staining
- Expertise in raising different *Arabidopsis thaliana* accessions and mutants, infecting them with fungus like *Alternaria brassicae* and *Sclerotinia sclerotiorum*
- Expertise in handling **microscopic instruments** like Olympus BX51 microscope and Olympus DP71 Camera, Olympus SZX10 Stereozoom
- Experience with image processing using **ImageJ** and **Adobe Photoshop**
- Capable of analyzing biological data using a wide range of **statistical tool**
- Expert in using **HPLC** and **LC-MS** to analyze different biological extracts

EDUCATION

April 2009- July 2016

Delhi, India

University of Delhi (DU), South Campus

Ph D, Genetics

Advisor: Dr. Jagreet Kaur (Professor)

Thesis title: Characterization of defense components in *Arabidopsis thaliana*-*Alternaria brassicae* pathosystem

Banaras Hindu University (B.H.U)

Varanasi, India

July 2004- July 2006

M.Sc. Biochemistry

Project title: Mechanism of aluminium toxicity and production of transgenic plants

July 2001- July 2004

B.Sc (Hons.) Botany

GRANTS AND AWARDS

June-2008

CSIR-UGC Junior Research Fellowship (JRF)

June-2006

CSIR-UGC Lectureship (LS)

WORKSHOP & SYMPOSIUM

- Attend **Science Leadership Workshop** organized by **Central University of Punjab**, Bathinda during 22nd-28th June 2020
- Participated in workshop on **Evidence Based Teaching and Learning Strategies** organized by **IISER Bhopal** under **PMMMNMST Scheme, MHRD** from 13th to 15th July 2020
- Poster Presentation in **XIX International Plant Protection Congress (IPPC2019)** at Hyderabad during 10th to 14th November 2019
- Training course in “**Analysis of Next Generation Sequencing data**” under Skill Development Program (SDP) held at **CSIR-Center for Cellular & Molecular Biology (CCMB)**, Hyderabad during 31st July to 11th August 2018
- National workshop titled “**Taxonomy, Biodiversity, Ex-Situ Conservation & Application of Fungi**” organized by **NFCCI-ARI** from 21st to 30th November 2017 at **Agharkar Research Institute**, Pune
- Workshop on “**Biosafety in Teaching and Research**” organized by **IBSC-SPPU** on 4th October, 2017 at **Savitribai Phule Pune University**, Pune
- Poster presentation in **National Science Day Symposium-2012**, organized by University of Delhi, South campus.
- 7th Annual Convention of ABAP and International Conference on **Plant Biotechnology, Molecular Medicine and Human Health (2013)**, organized jointly by Department of Genetics, University of Delhi, South Campus and Association of Biotechnology & Pharmacy from 18th to 20th October 2013

ACTIVITIES

- Participated in Flower Arrangement Competition in B.H.U (2002) and Collage competition in Delhi University (2011)
- Certificate course in computing from IGNOU in 2008
- Languages: Fluent in English, Hindi, Punjabi, and Bengali
- Acquired basic knowledge of photography which encouraged me to be more meticulous in my daily life and sensitive to all the small details around me
- Avid runner

ACADEMIC REFERENCES

**Prof. Jagreet Kaur
(work supervisor)**

Professor & HOD
Dept. of Genetics

University of Delhi

Email: jagreet@south.du.ac.in

Prof. Smita Zinjarde

Director & Professor
Institute of Bioinformatics &
Biotechnology

Savitribai Phule Pune University

Email: smitta@unipune.ac.in

Prof. Ameeta Ravikumar

Professor
Institute of Bioinformatics &
Biotechnology

Savitribai Phule Pune University

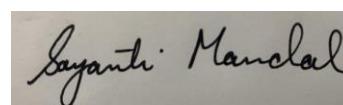
Email: ameeta@unipune.ac.in

Declaration

All information in this resume is right and truthful to the best of my knowledge and faith

Date: 17-04-2022

Place: Pune



(Signature of Candidate)