

Archana Y. Gajbhiye

Department of Biotechnology

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Profile

A dedicated, motivated, adaptable and hardworking professional, with over 20 years' experience in teaching, research and industry in the area of microbiology and microbial biotechnology. I am serving the position of HoD in the Department of Biotechnology at SPSU since 2011. I have gained extensive experience and skills of teaching, research and administration through my previous and current job profile. I believe that my experience and expertise in academia & research will be beneficial in delivering the fruitful outcomes of your organization.

Work Experience: 21 Years

Teaching Experience: 15 Years

1. Sir Padampat Singhania University, Udaipur-313601 (India)

Assistant Professor, Department of Biotechnology, from 2008 - present

Role and Responsibilities

- HoD, Department of Biotechnology since 2011.
- Teaching theory and laboratory subjects to undergraduate and Post Graduate students (B. Tech)
- Supervise Ph. D scholars
- Developing and updating the curriculum.
- Devising academic plans (Teaching-Learning) for each semester (Outcome based education system OBE)
- Monitoring student development (Progress evaluation, Mentorship etc.).
- Member of Board of Studies, Academic Council and other academic bodies of the University
- Interim IQAC Coordinator since March 2022. Organize meetings of IQAC, AQAR preparation and submission etc.
- Coordinator of cultural events.

2. P.G. Dept. of Microbiology, RTM Nagpur University, Nagpur, India

Lecture (Contract Basis), Sept. 2006 - Mar 2007 and Sept 2007- Mar 2008

Role and Responsibilities

- Teach and supervise the lab experiments of Environmental Microbiology to the students of Post-Graduation degree programme (M. Sc. Microbiology).

3. Rajiv Gandhi Biotechnology Center, RTM Nagpur University, Nagpur, India

Lecture (Contract Basis), Sept 2007- Mar 2008 and Sept 2008 - Oct 2008

Role and Responsibilities

- Teach theory subjects and laboratory experiments to the students of Post-Graduation degree programme (M. Sc. Biotechnology).

Research Experience: 3 Years 9 Months

1. Central Institute for Cotton Research, Nagpur, India

Research Associate, From August 5, 2003 to December 31, 2004

- Worked under the NATP project “Development of Bt-transgenic cotton”.
- Laboratory work on developing the protocols for performing *Agrobacterium* Mediated transformations of cotton explants.
- Record keeping of observations and results.

2. Central Institute for Cotton Research, Nagpur, India

Senior Research Fellow, October 12, 2000 to March 31, 2003

- Worked under the NATP-CGP project “Induction of *para*-nodules in cotton plant, using nitrogen fixing bacterium *Azorhizobium caulinodans*”.
- Laboratory work on developing the protocols for inducing para nodules in roots of cotton seedlings.
- Record keeping of observations and results.

Industrial Experience: 2 Years 2 Months

1. H. Jules & Co. Ltd. (Injectable Division), Nagpur, India.

Quality Control Department

Quality Control Chemist, From January 12, 2000 to October 10, 2000

- Sampling of raw material, in process material and finished product.
- Microbiological and biochemical analysis of the samples according to IP, USP and BP.
- Recording the results and reporting to the Manager, QC Department.

2. Magrul Mills Ltd., Nagpur

Investigator, Quality Control, From September 16, 1998 to January 10, 2000

- Sampling of raw material (Cotton lint), in process material and finished product (Yarn).
- Analysis of the samples (Strength, Humidity etc.).
- Recording the results and reporting to the Manager, QC Department.

Education

Ph.D., Microbiology

March 2009

Department of Microbiology, R.T.M. Nagpur University, Nagpur, India

Awarded Rajiv Gandhi National **JRF & SRF** for Ph.D

Master of Science (M.Sc.) in Microbiology

Summer-1998

66.00%

Department of Microbiology, Nagpur University, Nagpur, India

Bachelor of Science (B.Sc.)

Summer-1996

69.33%

Nagpur University, Nagpur, India

RESEARCH

Scopus/ Orcid ID: <https://orcid.org/0000-0002-8596-3994>

Google Scholar link:

<https://scholar.google.com/citations?user=idKQySMAAAAJ&hl=en&oi=ao>

• **Research Papers: 17**

1. Dongre AB, Bhandarkar M, Sawant R, Kharbikar L and **Gajbhiye A** (2007) Assessment of genetic diversity of cotton cultivars (*Gossypium Spp.*) by ISSR and microsatellite markers. **Asian Journal of Microbiology, Biotechnology and Environmental Sciences**, 9(1):31-36.
2. **Gajbhiye A**, Bhandarkar M, Dongre AB and Meshram S (2007) Genetic diversity evaluation of *Bacillus* isolates using randomly amplified polymorphic DNA molecular marker. **Romanian Biotechnological Letters**, 12(3): 3277-3286.
3. **Gajbhiye A**, Rai AR, Meshram SU and Dongre AB (2010) Isolation, evaluation and characterization of *Bacillus subtilis* from cotton rhizospheric soil with biocontrol activity against *Fusarium oxysporum*. **World J of Microbiology and Biotechnology**, 26: 1187-1194.
4. Bhavani M, Chowdary GV, David M and **Archana G** (2012) Screening, isolation and biochemical characterization of novel lipase producing bacteria from soil samples, **International Journal of Biological Engineering**. 2012, 2(2): 18-22.
5. Kumar P, Sharma R and **Gajbhiye A** (2015) Characterization of biosurfactant from *Bacillus* isolates as antifungal agent. **Indo Global Journal of Pharmaceutical Sciences**, 5(2): 117-123.
6. Varghese J and **Gajbhiye A** (2016) Purification and characterization of trypsin inhibitor protein from seeds of *Momordica dioica*. **Asian Journal of Pharmaceutical and Clinical Research**, 2016, 9(3): 335-339.
7. Varghese J and **Gajbhiye A** (2016) Characterization of protein from *Momordica dioica* seeds for trypsin inhibitory activity and its mass spectrometric analysis. **J de Afrikana**, 3(2): 214-224.
8. Nagda V, **Gajbhiye A** and Kumar D (2017) Isolation and characterization of endophytic fungi from *Calotropis procera* for their antioxidant activity. **Asian Journal of Pharmaceutical and Clinical Research**, 10(3): 254-258.
9. Bhatnagar P, Vyas D, Sinha SK and **Gajbhiye A** (2017) HPLC method for simultaneous estimation of drug release of levodopa and carbidopa in entacapone, levodopa and carbidopa tablets. **International Journal of Pharmaceutical Sciences and Research**, 8(3): 1091-1101.
10. Bhatnagar P, Vyas D, Sinha SK and **Gajbhiye A** (2017) HPLC method for estimation of drug release of entacapone in entacapone, levodopa and carbidopa tablets. **International Journal of Pharmaceutical Sciences and Research**, 8(4): 1734-1743.
11. Nagda V, **Gajbhiye A** and Kumar D (2017) *In vitro* antioxidant and alpha amylase inhibition activity of plant associated fungi isolated from *Catharanthus roseus*. **International Journal of Pharmacy and Biological Sciences**, 7(3):114-122.
12. Kumar D., **Gajbhiye A.**, Nagda V. and Arora A. (2018). Antibacterial activity of zinc sulphate and silver nitrate against human pathogenic bacteria. **World Journal of Pharmaceutical Research**, 7(5):1427-1435.
13. Kumar D., **Gajbhiye A.**, Nagda V. and Arora A. (2018). Characterization of root extracts of *Withania somnifera* and effect of zinc sulphate and silver nitrate on antibacterial activity against certain human pathogenic bacteria. **International Journal of Pharmacy and Biological Sciences**, 8(4):682-689.
14. Kumar D., **Gajbhiye A.**, Nagda V. and Arora A. (2020) Effect of zinc sulphate on antimicrobial activity of *Clitorea ternatea*. **Research Journal of Chemistry and Environment**, 24(2):1-6.

15. Rastogi, P. M., Kumar, N., Sharma, A., Vyas, D. and **Gajbhiye, A.** (2020). Sustainability of Aluminium Oxide Nanoparticles Blended Mahua Biodiesel to the Direct Injection Diesel Engine Performance and Emission Analysis. **Pollution**, 6(1): 25-33. DOI: 10.22059/poll.2019.283884.633.
16. Rathore M., Vyas D., Chakrabarti T., **Gajbhiye A.**, Chamoli M. and Rathore M.S. (2021). To survey and analyse the soil samples for physicochemical and biochemical parameters from different villages of (Nagaur district) Rajasthan, India. **International journal of multidisciplinary research and development**. 8(12): 50-55.
17. Mahala KR, Vyas D, Chakrabarti T, **Gajbhiye A.** (2022) Assessment of Pesticides use and Heavy Metals Analysis of Surface and Ground Water Sources by Atomic Absorption Spectroscopy at Nagaur Region, Rajasthan (India). **International Journal of Mechanical Engineering**. 7(1): 7079-7089.

- **Chapters in Books: 01**

1. **Gajbhiye A.** Microbial fuel cells for bioenergy production through wastewater treatment. *In: Biotechnological tools for genetic resources.* (Ed. Deka PC). Daya Publishing House, New Delhi. pp. 347-372. 2016.

- **Published Abstracts: 17**

- **Ph. D Students Supervised: 03**

1. Student's name: Jinitha Varghese, Topic: Purification and characterization of serine protease inhibitor from *Momordica dioica*. 2017.
2. Student's name: Vipin Nagda, Topic: Characterization of Bioactive Compounds from Fungi Associated with Certain Medicinal Plants. 2019.
3. Student's name: Dinesh Kumar, Topic: Antimicrobial synergistic effects of certain metal and medicinal plant extracts against pathogenic bacteria. 2020.

- **B. Tech Students research projects supervised: 14**

- **Research Projects Sanctioned: 01**

Project entitled, "Application of polymer matrix of starch nanoparticles for food packaging" sanctioned for funding of Rs. 15000/- by DST Rajasthan under the Students Project Program-2017-18.

Workshops/ Seminars/ FDPs

Seminars, Conferences, Symposia, Workshops, Trainings etc. attended: 18

Faculty Development Programmes (FDP) attended: 07

Professional Memberships: 02

1. Life member, Association of Microbiologists of India, India (Membership ID: 4748-2018)
2. Life Member, Global Biotech Forum, Nagpur, Maharashtra, India.

References

1. **Prof. Shrihari Honwad**
President,
Sir Padampat Singhanian University
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2. **Prof. P. C. Deka**
Former Vice Chancellor
Sir Padampat Singhanian University
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3. **Dr. Arti Shanware**
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Rajiv Gandhi Biotechnology Centre
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