

Aditya Anil Kadam

CAREER OBJECTIVE

Seeking opportunities at the intersection of Microbiology, Nanobiotechnology, AI-assisted Biological Research, and Science Education.

CAREER TRAJECTORY

Assistant Professor at Department of Microbiology — Rajarshi Shahu Mahavidyalaya (Empowered Autonomous Institution), Latur, Maharashtra.

(Shiv Chhatrapati Shikshan Sanstha)
Jan. 2026 -

Teaches Bioinstrumentation, Extremophile Ecology, Biochemistry, and Advanced Molecular Biology through integrated theory and laboratory instruction.

Develops and optimizes laboratory protocols, conducts experimental demonstrations, interprets analytical and microbiological data, and trains students in experimental design, scientific reasoning, laboratory techniques, and scientific communication. Incorporates computational and AI-assisted tools into scientific education, research workflows, and technical problem-solving.

EDUCATION

The Gandhigram Rural Institute, Dindigul, Tamilnadu — M. Sc. Microbiology

(Ministry of Education, Government of India)
2023 - 2025

Overall Percentage : 82.62 %

Rajarshi Shahu Mahavidyalaya(Autonomous), Latur, Maharashtra — B. Sc.

(Shiv Chhatrapati Shikshan Sanstha)
2020 - 2023

Triple Majors: Microbiology, Botany, Chemistry.
Overall Percentage : 80 %

Dayanand Junior Science College, Latur, Maharashtra — 12th

2019 - 2020

PERSONAL DETAILS

Date of Birth: 24th April, 2003

Age: 23

Blood Group: B+

Gender: Male

Marital Status: Unmarried

Address:

Shree Nagar, Barshi Road,
Latur, 413512

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Email:

bioscience.aditya@gmail.com

SKILLS

- UV-Vis Spectroscopy
- Microscopy
- Nanomaterial Synthesis
- Microbial Culturing, Assays & Techniques
- AMR Screening
- FT-IR Analysis & Interpretation
- SEM Interpretation
- Experimental Design & Optimization
- Scientific Literature Review
- Scientific Writing
- Data Interpretation
- Scientific Visualization
- AI-Assisted Research & Analysis
- SciLab (AI-Assisted)
- Generative AI

Secured 76% in HSC examination (MSBSHSE).
Secured 94% in MHT CET.

Shree Keshavraj Vidyalaya, Latur, Maharashtra — 10th
(Bharatiya Shikshan Prasarak Sanstha)
2017-2018

Secured 91.80% in SSC examination (MSBSHSE)

EXAMS QUALIFIED

GATE XL (2026-2029) — Qualified in Microbiology & Food Technology with a score 495. [Scorecard](#)

CUET-PG (2023) — Passed in Microbiology (SCQP03) with a score of 197 & Life Sciences (SCQP17) with a score of 173. Admitted in The Gandhigram Rural Institute (DTBU), Dindigul, Tamilnadu for M. Sc. Microbiology course based on the scores. [Scorecard](#)

GATE XL (2023-2026) — Qualified in Microbiology & Zoology with a score 455. [Scorecard](#)

LITERARY CONTRIBUTIONS

- Kadam, Aditya (2021): Coronavirus: A challenge that influenced nearly all fields of science. <https://doi.org/10.6084/m9.figshare.17129069.v1>
- Kadam, Aditya, et. al. (2021): Hydrogel Technology: A Step towards Futuristic Farming. <https://doi.org/10.6084/m9.figshare.17708666.v4>
- Kadam, Aditya. (2022). A brief overview on origin, mechanism and therapeutical applications of crispr-cas9 technology. In *Frontiers in Life Science Volume VII* (1st ed., Vol. 6, pp. 54-59). Kolhapur, Maharashtra: Bhumi Publishing.
- Kadam, A. (2022). COVID-19: The Pandemic and Science.. In *COVID-19: PERCEPTIONS of the BUDDING BIOLOGISTS*. Edited by Aniroodha Pethkar et al., 1st ed., 2022.
- **Kadam, A. (2025).** *Green Synthesis of ZnO Nanoparticles Using Lactobacillus for Photocatalytic Degradation of Dyes and Antibiotics*. Zenodo. <https://doi.org/10.5281/zenodo.22550845>
- Kadam, A. (2026). TOI-1196 / TIC 69068526: Archival and Pixel-Level Investigation of Transit-Source Attribution [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.22142236>

- Antigravity CLI
- OpenAI Codex
- Interactive HTML Development
- Canva
- Science Communication
- Blogging
- Observational Astronomy
- Celestial Object Identification
- Astronomical Spectroscopy Analysis
- Astrophysical Data Interpretation
- Cosmology

LANGUAGES

Marathi (Native), Hindi, English, Tamil (Spoken).

BLOG

<http://thesolarstep.blogspot.com>

SOCIAL MEDIA

[ORCID](#) 0000-0001-9585-8955

[ResearchID](#) 16069

[Figshare](#) 11796629

[LinkedIn](#) @thesolarstep

[X](#) @thesolarstep

[Facebook](#) @thesolarstep

[Instagram](#) @thesolarstep

PROJECTS

1. **Isolation and study of anthracene degrading bacteria:** Under guidance of Dr. K. G. Maske, Professor & Head, Department of Microbiology, Rajarshi Shahu Mahavidyalaya (Autonomous), Latur, Maharashtra (2023).

Isolated indigenous bacteria from contaminated soil to biodegrade anthracene, a polycyclic aromatic hydrocarbon. The project employed minimal salt medium to culture and screen potential strains, followed by biochemical identification. Biodegradation efficiency was assessed using **UV-Vis spectroscopy** and **HPLC**, with significant anthracene reduction observed under optimized conditions. This work contributed to eco-friendly approaches for PAH bioremediation using native microbial strains.

2. **Green synthesis of ZnO nanoparticles using lactobacillus for photocatalytic degradation of dyes and antibiotics:** Under guidance of Dr. N. Manivannan, Faculty member, Department of Biology, The Gandhigram Rural Institute (DTBU), Gandhigram, Tamil Nadu (2025).

Synthesized **ZnO nanoparticles** via Lactobacillus-mediated green synthesis using zinc chloride in MRS broth. Nanoparticles were characterized using **SEM, EDX, FTIR**, and analyzed for morphology using **ImageJ**. Their photocatalytic efficiency was assessed by degrading methylene blue, crystal violet, and antibiotics (penicillin, tetracycline) under UV light. Self-coded **SciLab** model was used for kinetic modeling and degradation curve analysis. The study highlights sustainable nanomaterials for wastewater remediation and antimicrobial resistance mitigation. [Zenodo DOI](#)

CERTIFICATIONS & TRAININGS

- Certificate of completion of a course on [Astronomy](#) conducted by KODACY, an official space tutor of ISRO.
- Certificate of two week course on “[Biofertilizer Technology: Gateway to Entrepreneurship](#)” by Department of Microbiology, Rajarshi Shahu Mahavidyalaya, Latur in collaboration with Green Vital Biotech, Pune, Maharashtra (2021).
- Short-term Beekeeping Training Programme by Central Bee Research & Training Institute, Pune. (2023)
- Certificate of Participation in “[National Level Workshop on Handling of Modern Analytical Instruments](#)” by Department of Microbiology, Rajarshi Shahu Mahavidyalaya, Latur in collaboration with Reliable’s Shree Industrial Training Centre, Jalgaon, Maharashtra (2020).
- Certificate in [Advanced Physics](#) by Alison, Ireland (2019).
- Certificate in [Particle Physics](#) by Open Learning University (2019).

SCIENTIFIC COMPUTING & DIGITAL RESOURCES

- **Computational Biosensor Target Prioritization Framework**
Python-based framework for identification, evaluation, scoring, and prioritization of biological targets for food-contamination biosensor development. Integrates biological databases, literature-derived evidence, weighted scoring, candidate ranking, and visualization. [GitHub Repository](#)
- **PLANETFALL: Exoplanet Candidate Validation Framework**
Computational framework applying adversarial validation and reproducible testing to evaluate and eliminate false-positive exoplanet candidates. [GitHub Repository](#)
- **Interactive Scientific Education Resources**
Developed browser-based HTML resources for Biochemistry, Bioinstrumentation, Microbiology, Extremophile Biology, and Advanced Molecular Biology, supporting theory, laboratory instruction, and self-directed learning. [GitHub Repository for Biochemistry & Others](#) & [GitHub Repository for Molecular Biology](#)

CONFERENCES

- Attended “**MicCon 24**” An International Conference on “**Recent Trends in Microbiology**” at Madurai Kamaraj University, Madurai on September 24, 2024.
- Attended “**National Conference on Fungal Frontier: Fungal Farming and Healthcare (FFFFH-2025)**” at Alagappa University, Karaikudi on March 17 & 18, 2025.
 - Presented a paper titled “**Lactobacillus-mediated Synthesis of ZnO Nanoparticles and Exploration of Their Applications in Bioremediation**” and won the first prize as **Best Paper Award**.

ACHIEVEMENTS & CONTRIBUTIONS

- **GATE XL (2026) Qualified in Microbiology & Food Technology** with a score of **495**.
- **Founding Honorary Editor at Biology Innovations Research & Developments (BIRD) Magazine of Department of Biology, The Gandhigram Rural Institute (DTBU), Gandhigram, Dindigul, Tamil Nadu (2025 - Now).**
- **Founding Executive Editor at Biology Innovations Research & Developments (BIRD) Magazine of Department of Biology, The Gandhigram Rural Institute (DTBU), Gandhigram, Dindigul, Tamil Nadu (2025).**
- **GATE XL (2023) Qualified in Microbiology & Zoology** at Undergraduate Level with score of **455**.
- Two research review papers written and published (cited above).
- Contribution to **two eBooks** as author of book chapters (cited above).
- Winner of [*Best Essay Award*](#) in National Level Microbioslate competition.
- Creator & director of a Marathi science podcast “[ज्ञान, विज्ञान आणि बरंच काही](#)” available for streaming on

[Spotify](#), [Google Podcasts](#), [Pocket Casts](#), [RadioPublic](#).

- Composition and release of an original music track *[“Passe Trappe”](#)* on Spotify as an independent artist nicknamed *“The Solar Step”*.
- **Editor** of two department-level active online science blogs: ***“MICROBIOZINE”*** for the Department of Microbiology & ***“SHAHU-BOTANICA”*** for the Department of Botany. (2023)
- Chaired as the **Vice-president** at **MICROBIOL** Association of Microbiology, Department of Microbiology, Rajarshi Shahu Mahavidyalaya (Autonomous), Latur. (2022-23)
- Chaired as the **Vice-president** at **SYMBIOSIS** Association of Botany, Department of Botany, Rajarshi Shahu Mahavidyalaya (Autonomous), Latur. (2022 - 23)
- **Magazine editor** of department-level eMagazine culture in Rajarshi Shahu Mahavidyalaya (Autonomous), Latur, Maharashtra by initiating three eMagazine issues of ***“MICROBIOZINE”*** for Department of Microbiology. (2022)
- Sub-chief at **Universal Science Club**, a registered (Unique Authorization No. VP-MH0300) science club affiliated with Vigyan Prasar (An autonomous organisation of the Department of Science & Technology, Govt. of India). (2016-2023)