

Mr. Gaurav Sunil Powar

Integrated BS-MS Student, IISER Berhampur

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Research Profile

Objective

Highly motivated undergraduate student with a strong foundational interest in gene editing and CRISPR-Cas9. Seeking a research internship to gain practical experience in genetic engineering and contribute to interdisciplinary biomedical research.

Areas of Interest

Gene editing, CRISPR, genome engineering, biomedical sciences, molecular biology, genetic medicine, interdisciplinary medical research.

Education

- Integrated BS-MS, IISER Berhampur 2024-Present
Medical leave: Oct 2024 - Jul 2025
- HSC, B. M. Rote Junior College, Kolhapur 2022-2024
- SSC, Shri V. J. Deshmukh Highschool, Kolhapur 2022

Publications and Preprints

- **Gaurav Powar**, Dev Chavan. Evaluating Silicon-Based Life: Could Silanes Replace Hydrocarbons in Extraterrestrial Organisms?
ResearchGate Preprint, May 2025. DOI: [10.13140/RG.2.2.13467.99368](https://doi.org/10.13140/RG.2.2.13467.99368)
- Asmit Ajay Sangamwar, **Gaurav Powar**. Deposition of Toxic Substances in the Human Body: Causes, Effects, and Prevention.
ResearchGate Preprint, June 2025. DOI: [10.13140/RG.2.2.26725.51684](https://doi.org/10.13140/RG.2.2.26725.51684)
Recommended (on ResearchGate) By Dr. Peter Spencer, PhD, FANA, FRCPath, Professor Oregon Health & Science University.
- **Gaurav Powar**. Art Through Science: The Creative Chemistry of Coffee
ResearchGate Preprint, November 2025. DOI: [10.13140/RG.2.2.28048.26880](https://doi.org/10.13140/RG.2.2.28048.26880)

Laboratory Courses, IISER Berhampur

- Developed a strong foundation in laboratory techniques through courses in Microbiology and Molecular Biology.
- Performed genomic DNA isolation from *E. coli* using chemical lysis and phenol-chloroform extraction.
- Quantified isolated DNA and assessed its purity via spectrophotometry, analyzing absorbance ratios at A260/A280 and A260/A230.
- Executed Polymerase Chain Reaction (PCR) for DNA amplification, separating fragments by size using Agarose Gel Electrophoresis (AGE).
- Performed protein quantification using colorimetric assays, including the Lowry and Bradford methods with BSA as a standard.
- Conducted qualitative biochemical tests for biomolecules, including carbohydrates (Molisch, Benedict's, Iodine), lipids (Salkowski), and nucleic acids (DPA).
- Prepared and sterilized culture media and reagents using an autoclave, executing precise protocols for weighing, dissolving, and pH-adjustment to create optimal, aseptic growth conditions for subsequent microbiological applications.

Skills

- **Research Skills:** Literature review, Scientific writing, Interdisciplinary research, Theoretical analysis.
- **Programming and coding:** Python, MATLAB, LaTeX, Arduino Programming, JavaScript, HTML, CSS.
- **Communication & Leadership:** Science outreach, Event organization, Project management, Public speaking, Mentoring

Clubs & Societies Student Councils

- **Co-coordinator, Q-Cell**, IISER Berhampur *June 2025-Present*
Managed Q-Cell's LinkedIn page, developed newsletter content, and helped organize quizzes.
- **Member**, Content Team of Village Development & Activity Club, IISER Berhampur *July 2025-Present*
Documented the development of new modules and outreach events for V-DAC's outreach initiatives.
- **Member**, Social Media Team of **Episteme**, IISER Berhampur *Oct 2025-Present*
Drove academic engagement by managing Episteme magazine's LinkedIn presence to promote periodical publications
- **Library Prefect**, Shri V. J. Deshmukh Highschool, Kolhapur *Jul 2019 - Mar 2022*
Elected Student Council Representative to manage daily library operations and maintain order; actively assisted students in resource location and promoted library activities to foster an organized and welcoming reading environment.

Certifications

- Unpacking the SAGER Guidelines: A Roundtable Discussion on Achieving Gender Equity in Research
Issued by Elsevier Researcher Academy (Aug 2025)
- Computing Intelligence Olympiad - All India Rank 01
Issued by Central Board of IT & Vocational Training (May 2019)

Languages

- **Marathi:** Native
- **English:** Fluent
- **Hindi:** Fluent
- **German:** Basic Conversational