KASTURI LELE

CONTACT

- Email: Kasturi.Lele@tufts.edu

EDUCATION

- Tufts University, PhD Candidate in Biology (2021-present)
- Indian Institute of Science Education and Research, Pune, India, BS-MS Dual degree in Biology (2016–2021)
  - CGPA (Cumulative Grade Point Average) – 9.8 out of 10

PROJECTS

- 2017 – 2020: Various projects investigating the effects of UV radiation and antibiotic resistance evolution in E. coli
  - Project guide: Dr. Sutirth Dey, Population Biology Lab, IISER Pune
- May - July 2019: Investigating strategies to recover populations stuck in an extinction vortex (supported by DAAD-WISE fellowship)
  - Project guide: Dr. Meike Wittmann, Theoretical Biology Lab, Universität Bielefeld
- Master's Thesis (2020-21): The influence of fluctuating antibiotic exposures and population sizes on the evolution of multi-drug resistance
  - Thesis guide: Dr. Sutirth Dey, Population Biology Lab, IISER Pune
- PhD Thesis project (2021-present): Understanding the patterns of microbiome assembly and evolution in sourdough
  - Thesis advisors: Dr. Lawrence Uricchio and Dr. Benjamin Wolfe, Tufts University

ACADEMIC ACHIEVEMENTS

- INSPIRE Scholarship for Higher Education, awarded by Department of Science and Technology (DST), Govt. of India, 2016
- Kishore Vaigyanik Protsahan Yojana (KVPY) Fellowship, awarded by DST, Govt. of India, 2016-2019
- DAAD-WISE Fellowship, Research internship funded by the German Academic Exchange Service, 2019

CONFERENCES

- Indian Society of Evolutionary Biologists 1: Celebrating Ecology and Evolution in India, October 2019
  - Presented a poster titled "Evolution of Escherichia coli under exposure to UV during different phases of the bacterial growth cycle"

- Gordon Research Seminar and Gordon Research Conference in Microbial Population Biology, June 2023

- Presented a poster titled “Understanding the dynamics of microbial community assembly in sourdough”
- 19th International Symposium on Microbial Ecology, August 2024
  - Presented a poster titled “Predicting multi-species community assembly using Lotka-Volterra models in sourdough microbial communities”

PUBLICATIONS

- Selveshwari S., Kasturi Lele and Sutirth Dey. Genomic signatures of UV resistance evolution in Escherichia coli depend on the growth phase during exposure. Journal of Evolutionary Biology 34.6 (2021): 953-967.
- Nicolas L. Louw, Kasturi Lele, Ruby Ye, Collin B. Edwards, and Benjamin E. Wolfe. Microbiome Assembly in Fermented Foods. Annual Review of Microbiology 77 (2023): 381-402.
- Kasturi Lele, Benjamin E. Wolfe, and Lawrence H. Uricchio. Pairwise interactions and serial bottlenecks help explain species composition in a multi-species microbial community." bioRxiv (2024): 2024-11.

SKILLS

- Programming languages – R, Python, Bash, SLiM
- Microbiology –
  - Basic laboratory techniques to culture, maintain and propagate microbes, Aseptic technique
  - Extraction and processing DNA for sequencing
  - Lab safety, MSDS, and handling of biohazard waste
- Miscellaneous –
  - Data Processing (for instance, whole genome sequencing data)
  - Statistical Analysis
  - Design, conduct and interpret scientific research
  - Communicate findings using models, charts and graphs
  - Disseminate research through writing manuscripts

TEACHING EXPERIENCE

Teaching assistant for the following courses in the Biology department at Tufts University:

- BIO 13 / 15 – Cells and Organisms (Lab)
- BIO 14 – Organisms and populations (Lecture and Lab)
- BIO 107 – Microbiology Lab
- BIO 109 – Virology
- BIO 144 – Conservation Biology
- BIO 132 – Biostatistics (as grader)