

*"Too mathematical to interest most biologists and not sufficiently
mathematical to interest most mathematicians"*

Education

- 2021–2026 **Integrated Msc**, *National Institute of Science Education and Research*,
Bhubaneswar.
CGPA - 8.74
- 2009–2021 **Schooling**, *Kendriya Vidyalaya No. 1, Palakkad, Kerala*.
 X^{th} - 97%, XII^{th} - 97.8%

Publications

- Manuscript under preparation **Publication**, NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH,
In collaboration with N Devanand¹, Shwetha Sasindran¹, Dr. Rittik Deb¹, ¹ NISER.
This project is aimed at assessing the accuracy of various android SPL measurement applications by comparing them with a standard Brüel & Kjær SLM. Testing is done inside an anechoic chamber by comparing readings across a frequency range of 3kHz to 10kHz with varying sound levels at each frequency.
- Manuscript under preparation **Publication**, NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH,
In collaboration with M Sreerag¹, Dr. Ronita Mukherjee², Dr. Rittik Deb¹, Dr. Shubankar Mishra¹, ¹ NISER, ² ATREE.
The aim of the project was to curate a novel dataset to represent South Indian honey bee diversity in the domain of species classification using deep learning networks. So far, we have curated, tested/bench-marked and analysed the dataset using standard available models. The results highlight the viability of our dataset as a novel contribution to the existing database.

Projects

- August 2024 - present **MSc thesis**, NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH,
Game Theoretic Modelling of Alternative Reproductive Tactics, Under Dr. Rittik Deb.
My study focuses on the condition dependent ART of "baffling" (calling through a hole within a leaf) in *Oecanthus henryi*, a species of tree cricket. I try to look at the male signaling and female mate choice behavior in *O. henryi* as a discrete action-response communication game between males and females with baffling playing the role of a "cheating" strategy. I want to analyze the biotic and abiotic factors that affect the cost/benefit ratio of baffling and hence the baffling propensity in males.

June-July 2024 **Summer Project**, INDIAN INSTITUTE OF SCIENCE, BANGALORE, Dr. Vishwesh Guttal, Professor, Center for Ecological Sciences, .

Collective behavior The aim of the internship was bi-layered. On one front was the task of observing and documenting collective behavior in and around IISc campus and producing a video documentary on the same. On the other was reading the literature on collective motion and game theory in animal behavior.

June-July 2023 **Summer Project**, NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, BHUBANESHWAR, Dr. Rittik Deb, Assistant Professor, School of Biological Sciences, .

Effect of development stage diet on adult size and weight The primary aim of the project was to study the effect of developmental stage diet on adult size and weight in *O.Henryi*. The experiment was carried out by capturing and housing *O.Henryi* nymphs available on campus during the internship period. Various parameters like adult size, adult weight, size gain, weight gain, rate of size and weight gain were analysed and compared. The results suggests that a mixed model analysis incorporating period of exposure to diet condition is required to get conclusive inferences.

Collaborations

August 2024 **Coding**, NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, In collaboration with Thejas N Manojkumar¹, ¹ NISER.

The aim of the project was to write a python script to synthesize artificial calls of the field cricket *Gryllodes sigillatus*. This was done by generating average max-amplitude envelopes of syllables from natural calls, and using these envelopes and a simple sine wave to synthesize the artificial call. The script takes the generated envelopes as input and allows the user to specify the carrier frequency, inter syllable duration and inter chirp duration. The artificial call contains up to the second harmonic. Phonotaxis experiments show that the artificial signals are highly effective in eliciting female response (for codes refer [here](#)).

Workshops and Conferences

March 2025 **Workshop**, INTERNATIONAL CENTER FOR THEORETICAL SCIENCES, BANGALORE, Decisions, Games and Evolution.

Selected for the upcoming workshop on "[Decisions, Games and Evolution](#)" at the International Center for Theoretical Sciences, Bangalore

Achievements

GATE 2024: AIR 10
EY (Ecology and Evolution)
GATE 2024: AIR 970
XL (Life Sciences)

Computer skills

Basic Microsoft Excel, Krita, Shotcut
Coding PYTHON, R(basic)
Scientific FIJI, PYMOL
Typography L^AT_EX

Languages

English, Hindi **Reading, writing and speaking**
Malayalam **Speaking and reading**
Tamil **Speaking**