

# Sandeep Kumar

5 TH YEAR STUDENT · DEPARTMENT OF BIOLOGICAL SCIENCES · IISER KOLKATA

Mohanpur, Nadia - 741246 West Bengal, India

☎ (+91)797822278 | ✉ sk21ms053@iiserkol.ac.in | 🐦 @IgnoramusNWords

## Education

### INTEGRATED 5 Year BS-MS DUAL DEGREE IN SCIENCE

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (2021 - 2026), CURRENTLY IN 10TH SEM

Kolkata, India

CGPA: 7.54

## Research Experience

### Community Ecology

TIFR-Hyd & IISc Bangalore, India

HOW DO SPATIAL PATTERNS OF DISTURBANCE AFFECT THE BEHAVIOR AND ECOLOGICAL ROLE OF ORGANISMS?

May-Current, 2025

SUPERVISOR: **DR ANUSHA SHANKAR & DR UMESH SRINIVASAN**

- **Field-Experience** Birds handling, Deploying Mishneting.
- **Data Analysis:** Field data handling, Network Analysis, PCA, Correlation analysis, etc., Ongoing

### Geospatial Analysis

TIFR-Hyderabad, India

SPATIAL & TEMPORAL ANALYSIS, SUPERVISOR: **DR ANUSHA SHANKAR**

May-August, 2024

- **Q-GIS:** Random point sampling.
- **GeoSpatial Analysis:** Weather patterns and land use changes in Hyderabad and nearby districts.

### Natural Resource Management

Institute of BioEcoSciences, USA

ECOLOGICAL MODELING, SUPERVISOR: **DR SREENATH SUBRAHMANYAM**

June-October, 2023

- **Species Distribution Model-MaxEnt:** *Nasikabatrachus sahyadrensis* (Purple Frog) using data from WorldClim and GBIF.
- **Analysis:** Correlation Analysis, Generalized linear model.

### Animal Behaviour

IISER Kolkata, India

ON COLOR PREFERENCE AND SPECIES CONFIDENCE OF INDIAN FREE-RANGING DOGS, SUPERVISOR: **DR ANINDITA BHADRA**

May-November, 2023

- **Field Experiment:** Choice Experiment across geographical variations.
- **Analysis:** Behaviour Decoding, Analysis using Python, Image J.

## Publication

Roy, A., Lahiri, A., Nandi, S., Manchalwar, Siddharth., JVR, A., Bulhan, I., Sengupta, S., **Kumar, S.**, Chakravarty, T., Bhadra, A. (2024) Ready, set, yellow! Color Preference of Indian Free-ranging Dogs. **Springer Nature** <https://doi.org/10.1007/s10071-024-01928-9>

This paper investigates the Colour preference in Indian Free-ranging dogs across different geographical variations

## Research Skills

- **Field & Ecology:** Mist netting (setup, extraction & handling), Sampling methods in Animal Behaviour (AOS, Focal sampling, Scan sampling, Point Sampling, line transect).
- **Genetics:** Cloning of gene by PCR method (Polymerase Chain Reaction & Qualitative PCR), Plasmid DNA isolation by Alkaline lysis.
- **Animal Experimentation:** Mice direction and extraction of brain, liver and spinal cord, tissue processing.
- **Computational:** Network analysis, Temporal and Behaviour data analysis using R packages, Estimation of diffusion coefficient by particle tracking.

## Course Undertaken

- **Ecology & Evolution:** Ecology, Evolutionary Biology, Introduction to Animal behaviour(edX)- University of Wageningen, Introduction to Environmental Science
- **Genetics:** Epigenetics, Molecular Genetics
- **Labs:** Ecology and Behaviour Laboratory, Cell Biology and Imaging Laboratory, Gene Expression Laboratory
- **Computer Science:** Python & Basic of C

## Conferences & Seminars

---

- Student Conference on Conservation Science 2024 -IISc
- EvoBio-IISER Kolkata
- Understanding Behaviour 2023 Conference-IISER Kolkata
- Frontiers in Modern Biology-IISER Kolkata

## Social Service

---

### Ek Pehal Foundation

*Mohanpur, Nadia, Kolkata*

MEMBER

*Spring 2022 - spring 2024*

- Taught high school-level Science and basic technology exposure to underprivileged students near campus area villages.

## Technical Skill

---

- Linguistics-Bilingual. Fluency in reading, writing and speaking **English** and **Hindi**
- Programming Languages: **Intermediate Python, Intermediate R,  $\text{\LaTeX}$**
- Applications: **QGIS, Image J, Raven Pro, Zotero, Mendeley, Inkscape**
- Basic Utilities: **Microsoft Office, Adobe Photoshop, Canva**
- Media & Designing: **Adobe Illustrator, Adobe Photoshop, Adobe Lightroom Classic, Snapseed, DaVinci Resolve**

## Leadership

---

### Photography Club of IISER Kolkata

*Kolkata, India*

SECRETARY | CULTURAL COUNCIL

*Spring 2022 – Spring 2024*

- I was Secretary and treasurer of my college photography club from 2022-2024.
- Represented a college in Inter IISER Cultural Meet(IICM-2022) at IISER-Pune

## Hobbies

---

- Wildlife Photography and Documentation things around me
- **Sports**-Cricket, Swimming, Badminton
- Birding
- Adventure Seeker