



Ishita Parui, PhD

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PROFILE

Highly motivated PhD graduate with expertise in statistical programming, data analysis, and oncology research. Proficient in R, Python, and SQL, with experience in bulk RNA sequencing, proteomics, and hypothesis-driven research. Skilled in translating complex biological data into actionable insights, contributing to oncology and immunology advancements. Recognized for delivering award-winning research presentations and optimizing data pipelines for efficiency. Passionate about leveraging scientific expertise in data-driven decision-making for real world data. A strategic planner with strong multitasking abilities, known for completing work ahead of deadlines.

WORK EXPERIENCE

Scientific employee (PhD) | Department für Medizinische Mikrobiologie, Virologie und Hygiene | Universitätsklinikum Freiburg | Freiburg, Germany | Mar 2021 – Dec 2024

- Developed efficient R-based data analysis pipelines for complex biological datasets (bulk RNA sequencing and proteomics), enabling hypothesis testing and visualization that led to insights into innate immune signaling and the identification of novel caspase substrates
- Gained expertise in project management by planning, managing, and completing projects in a timely and efficient manner
- Independently designed and conducted in vitro experiments to assess the effects of chemotherapy drugs
- Provided statistical consultation and study design support to both junior and senior researchers, improving overall research quality
- Supervised research projects and conducted workshops for PhD students, demonstrating leadership and teaching expertise
- Delivered award-winning presentations at international conferences for impactful research

PhD representative and Managing Board Member | ProtPath GRK2606 research training group | Freiburg, Germany | Mar 2021 – Mar 2023

- Designed the research training group curriculum alongside other managing board members, enhancing skill development for over 30 doctoral researchers
- Collaborated with stakeholders to refine graduate program structure, funding, and recruitment while prioritizing doctoral career development. Represented 30+ researchers, ensuring their concerns were heard and integrated into faculty decision-making through effective communication and advocacy.

- Played a pivotal role in strategic decisions regarding course planning, leading to the introduction of more statistics-focused courses tailored specifically for biologists
- Coordinated social and scientific events to facilitate networking among researchers.

Scientific employee (Student project & Master thesis) | Leibniz-Institute of Freshwater Ecology | Berlin, Germany | Aug 2019 – Jan 2021

- Performed data analysis and visualization using R
- Investigated the effect of melatonin on respiratory burst activity in fish macrophages
- Gained experience in working with animal models
- Designed and executed immunological studies independently

Marketing and Customer Relations | Sonali Organic & AgroChem | Kolkata, India | Jun 2017 – Mar 2018

- Developed advertising strategies and established e-commerce operations
- Managed online orders via the company website and Amazon
- Provided customer service and support

1 month internship in Seafood post-harvest processing and quality analysis | National Institute of Fisheries Post Harvest Technology | Kochi, India | Dec 2016 – Dec 2016

- Acquired hands-on experience in food technology, including quality analysis of post-harvest processing, as well as frozen and canned food manufacturing and packaging

EDUCATION

PhD in Cancer Biology | University of Freiburg | Mar 2021 – Dec 2024

- Focused on data-driven experiments
- Specialized in proteases, cell death signaling, immunology, oncology, and chemotherapy drugs
- Completed advanced coursework in biostatistics, Python, R, SQL, bulk RNA-seq analysis, presentation, and communication
- **Final Grade:** 1.3 (Magna cum laude)

Master of Science (Fish Biology, Fisheries, and Aquaculture) | Field(s) of study: Fish Biology, Biostatistics | Humboldt Universität zu Berlin | Berlin, Germany | Apr 2018 – Feb 2021

- Acquired statistical knowledge through multiple experimental courses in quantitative analysis and biostatistics using R and SAS
- Performed time series analysis in a population analysis project
- **Final Grade:** 1.5 (Sehr gut / Very good)

Bachelor of Science (major in Fish and Fisheries) | Calcutta University | Kolkata, India | Jun 2014 – Jun 2017

- **Fields of study:** Fish Biology, Zoology, Chemistry, Entrepreneurship
- **Final Grade:** 77%

CERTIFICATIONS AND TRAINING IN STATISTICS AND DATA ANALYSIS

- Fundamentals of Credit Analysis, Starweaver, Coursera, (2025, 6h, **Grade: 86.66%**)
- Fundamentals of Quantitative Modelling, University of Pennsylvania, (2025, 7h, **Grade: 87.50%**)
- Intermediate **Python** – datacamp (2024, 4h)
- Intermediate **SQL** – datacamp (2024, 4h)
- Intro to SQL -datacamp (2024, 2h)
- Bulk RNA-seq Analysis:from raw data to biological insights (2024, 14h)
- Advanced Principles of Biostatistics – Albert-Ludwigs-Universität Freiburg (2024, 20h)
- Intro to Python -datacamp (2023, 4h)
- Basic Principles of Biostatistics – Albert-Ludwigs-Universität Freiburg (2022, 20h)
- Intro to **R** and Experimental Design – Leibniz-Institute of Freshwater Ecology and Inland Fisheries (2019, 48h)
- Fundamentals of Biostatistics with **SAS** – Universität Rostock (2019, 3 ECTS, **Grade: 1.0**)
- Population Dynamics with SAS– Universität Rostock (2019, 3 ECTS, **Grade: 1.0**)

TECHNICAL SKILLS

Data Analysis & Programming: R, Python, SAS, SQL; advanced statistical modelling, hypothesis testing, regression analysis, multivariate analysis, data visualization, Bulk RNA sequencing, N-terminomics

Laboratory Techniques: RNA isolation, qPCR, PCR, immunofluorescence, CRISPR-Cas9 gene editing, flow cytometry, SDS-PAGE, ELISA, cell culture, handling organisms in S1/S2 safety laboratories, Blue native PAGE, native PAGE, Y2H system, mass spectrometry, single cell gel electrophoresis

Software & Data Processing: Microsoft Office, GraphPad, Adobe Illustrator, Adobe Photoshop, Inkscape, and WordPress

Other Tools: Git, UNIX, Powershell, LaTeX, Mendeley

LANGUAGE SKILLS

English (native), German (**B2.2**), Bengali (native), Hindi (fluent)

SOFT SKILLS

Strategic planner, Leadership, Communication, Presentation, Teamwork

AWARDS

- **Best Presentation – Winter School on Proteinases and Inhibitors in Tiers** (2023)
- **Poster Prize – Swiss Apoptosis & Autophagy Meeting** (FEBS Journal, 2023)
- **Deutschlandstipendium – Humboldt Universität zu Berlin & Bundesministerium für Bildung und Forschung** (2020)

PUBLICATIONS

- **Apoptotic caspases silence spontaneous innate immune signals by specifically cleaving activated mitochondrial antiviral signaling protein (MAVS) – In preparation.**
- **Mitochondria supply sub-lethal signals for cytokine secretion and DNA damage in *H. pylori* infection** – *Cell Death Differ* 29, 2218–2232 (2022). [DOI:10.1038/s41418-022-01009-9](https://doi.org/10.1038/s41418-022-01009-9).