

Ruhila S.

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🌐 <https://github.com/RuhilaS/>



*“Nothing exists for itself alone, but only in relation to other forms of life.”
– Charles Darwin*

Personal Data

Name Ruhila S.
Date Of Birth 20.09.2001
Birthplace Virudhunagar, Tamil Nadu, India

Education

2021–PRESENT **B.S-M.S. Biology (Major) Data Science (Minor), Indian Institute of Science Education and Research (IISER), Mohali, India**
8.3 CGPA
2020 **Intermediate (AISSCE), Velammal Vidyalaya, Ayanabakkam, Chennai, India**
83.8% Central Board of Secondary Education (CBSE)
2017 **High School (AISSE), Velammal Vidyalaya, Ayanabakkam, Chennai, India**
10.0 Cumulative Grade Point Average (CGPA) in Central Board of Secondary Education (CBSE)

Experience

Internships

SUMMER 2021 **Dr. Lolitika Mandal, IISER Mohali, Research Intern**
Exploring Genetic Tools for working with *Drosophila* from a wet-lab perspective of data collection and analysis.

SUMMER	Prof. Arnar Pálsson , <i>University of Iceland</i> , Research Staff
2022–PRESENT	<p>Detailed analysis in a literate and reproducible manner for simulating a series of possible molecular evolutionary pathways for the <i>Salmonid</i> using phylogenetic trees. This involved the five steps on an HPC (High Performance Computer) with literate programming visualization in R:</p> <ul style="list-style-type: none"> ○ Data curation with NCBI databases ○ Homology inference using similarity measures (BLAST) ○ Multiple sequence alignment (MUSCLE5) ○ Alignment trimming (G-BLOCK) ○ Tree simulation with distance measures (BIONJ) and maximum likelihood approaches (RAXML-NG) <p>PROJECT REPORT: Computational Primitives for Evolutionary Paths (\approx 147 pages)</p> <p>Volunteer Work</p>
2021–PRESENT	<p>Biological Society, <i>IISER Mohali</i>, Member</p> <p>Enthusiastic participant and also am responsible for arranging independent peer-reviewed article readings.</p>
2021–PRESENT	<p>Dance Society, <i>IISER Mohali</i>, Member</p> <p>Active participant for choreography and performances.</p>

Certifications

NPTEL Courses

SEP 2022	Applications of machine learning techniques in biology using WEKA , <i>IIT Madras</i> , Distinction, 93%
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Technical Skills

Programming Languages

EXPERIENCED	R, Python (3.x), Shell (zsh,bash)	FAMILIAR	C, Java
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Bioinformatics Packages

EXPERIENCED	Randomized Accelerated Maximum Likelihood new generation (RAXML-NG), MUSCLE5 (multiple sequence alignment)	FAMILIAR	WEKA, BEAST2 (Bayesian Evolutionary Analysis Sampling Trees) via babette, Snakemake
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Tools

EXPERIENCED	Git (version control), ssh, Vim, Markdown	FAMILIAR	Office-Suites (MS, OpenOffice, LibreOffice)
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Experimental

BIOLOGICAL	Handling flies (wild-type, w ¹¹⁸ , tubby), Drosophila larva dissection (brain, salivary gland, proventriculus, imaginal discs, gastric caeca), Fixing, staining, mounting viewing tissues with Fluorescent microscopes, Making PBS, PFA	PROFESSIONAL	Time management, critical thinking, problem solving, communication
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Research Topics

EXPERIENCED Phylogenetic Tree Construction (Distance, Maximum Likelihood, Bayesian), Evolutionary Biology, Population genetics, R reproducible literate programming, High performance open source software, Scientific Software Development for High Throughput calculations

INTERESTED Biomolecular simulations, Genomics, Modeling genetic markers for disease, Oncology and stem cells, Human genetics

Affiliations

Memberships

2022–PRESENT **RSB (Royal Society of Biology)**, Student Member
2022–PRESENT **British Ecological Society**, Student Member
2022–PRESENT **Biochemical Society, UK**, Undergraduate Member
2022–PRESENT **Genetics Society, UK**, Undergraduate Member
2022–PRESENT **Genetics Society of America**, Undergraduate Member
2022–PRESENT **Royal Microscopical Society, UK**, Undergraduate Member
2022–PRESENT **IEEE EMBS (Engineering in Medicine and Biology Society)**, Student Member
2022–PRESENT **Federation of European Biochemical Societies (FEBS)**, Member
2022–PRESENT **European Microscopy Society**, Member
2022–PRESENT **ACM (Association for Computing Machinery)**, Student Member

Publications

CONFERENCE PROCEEDINGS

Rohit Goswami, Ruhila S, Amrita Goswami, Sonaly Goswami, and Debabrata Goswami. “Reproducible High Performance Computing Without Redundancy with Nix (accepted).” In: *2022 Seventh International Conference on Parallel, Distributed and Grid Computing (PDGC)*. 2023.

Rohit Goswami and Ruhila S. “High Throughput Reproducible Literate Phylogenetic Analysis (accepted).” In: *2022 Seventh International Conference on Parallel, Distributed and Grid Computing (PDGC)*. 2023.

Conference Records

Posters

NOVEMBER 2022 **Tracing Lineages of *Salmo Salar* through Histone sequence data**, *BES Annual Meeting 2022*, [Ruhila S.](#), Accepted

Oral Presentations

NOVEMBER 2022 **High Throughput Reproducible Literate Phylogenetic Analysis**, *IEEE PDGC-2022*, R. Goswami, [Ruhila S.](#), Accepted

NOVEMBER 2022 **Reproducible High Performance Computing Without Redundancy with Nix**, *IEEE PDGC-2022*, R. Goswami, [Ruhila S.](#), A. Goswami, S. Goswami and D. Goswami, Accepted