Aiswarya Prasad

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PhD in Quantitative Biology, specializing in microbiome ecology and evolution using a combination of bioinformatic and wet-lab approaches. Experienced in applying a strategic approach to problems honed through leadership experience in a biotech accelerator and leading a life science consulting project for a bacterial diagnostics startup.

Research Experience

Senior Researcher (formerly PhD Candidate) / *Aug 2020 – Present*
University of Lausanne, Switzerland

- Designed and executed a large-scale comparative metagenomics study of honeybee gut microbiota evolution.
- Piloted and established a PacBio sequencing pipeline (wet-lab to analysis); adopted in multiple lab projects.
- Built Snakemake workflows for genome assembly, SNP profiling, phylogenetics, and functional profiling.
- Initiated a strategic international collaboration, expanding project scope and accelerating timeline by one year.
- Advocated and implemented reproducible documentation practices through standardized R Markdown templates as a teaching assistant for a graduate-level bioinformatics course.
- Presented and discussed research findings at four international conferences and in peer-reviewed publications.

Master's Thesis Researcher / *May 2019 – May 2020*
Indian Institute of Science, Bangalore

- Established a Nanopore sequencing pipeline (10% of setup cost) for microbiome analysis in low-resource settings from sample preparation to sequencing data analysis.
- Applied pipeline to study gut microbiome shifts in chronic pancreatitis patients in collaboration with clinicians.

Selected publications

Prasad, A. et al. (2025). Evolution of gut microbiota across honeybee species revealed by comparative metagenomics. Nature Communications (*in press*)

Mazel, F., **Prasad, A.** et al. (2024). Host specificity of gut microbiota associated with social bees: patterns and processes. Microbiology and Molecular Biology Reviews

Baud, G.L., **Prasad, A.** et al. (2023). Turnover of strain-level diversity modulates functional traits in the honeybee gut microbiome between nurses and foragers. Genome Biology

Sarton-Lohéac, G., **…, Prasad, A.**, et al. (2023). Deep Divergence and Genomic Diversification of Gut Symbionts of Neotropical Stingless Bees. mBio

Leadership and Professional Engagement

Assistant Manager, Activator Operations / *Jun 2025 - Present*
Nucleate HQ

- Developed operations playbook and Airtable interface aiding tracking of the effectiveness of applicant sourcing channels; created outreach materials (one-pager, FAQs) for applicant engagement.

Director, Strategy and Experts Lead / *Oct 2024 – Present*
Nucleate Switzerland

- Assessed biotech startups for accelerator cohort selection; sourced 10+ technical, market, and regulatory experts to advise program participants.

Consulting Project Manager / *May 2024 – Jul 2025*
The Consulting Society, EPFL

- Led a three-member consulting team for a bacterial diagnostics startup; delivered market and pricing strategy adopted into subsequent investor pitches.

Scientific Standards Contributor / *Dec 2024*
Methods in Microbiomics

- Contributed best practice guidelines for comparative metagenomics and variant analysis to promote robust, reproducible workflows.

Policy & Advocacy / *Nov 2018*
iGEM Delegate, UN Biodiversity Conference (COP14)

- Represented the youth science community in policy discussions on genetic engineering, access and benefit-sharing, and synthetic biology. Published reflection here.

Committee & Review Work

- Faculty Hiring Committee – Postdoc/PhD Rep, University of Lausanne (2023)
- Reviewer: Ecological Monographs, Insect Molecular Biology (since 2023)

Education and awards

PhD in Quantitative Biology */ Aug 2020 – Aug 2025*
University of Lausanne, Switzerland

- Mathilde Agassiz *Scholarship* (~ $70k, 1st-ranked applicant), Faculty of Biology and Medicine *Fellowship*
- *Best Selected Talk*, Microbiome Virtual International Forum.33 (2024)

BS + MS in Biology */ Aug 2015 – July 2020*
Indian Institute of Science (IISc), Bangalore

- Awarded KVPY *Fellowship* (top 0.3%, All-India Rank 335)