**Urmila Mallick**

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**EDUCATION**

**Yale University: School of the Environment** 2021-2023 New Haven, CT

* Candidate for *Master of Environmental Science*, 2023
* *Relevant Coursework****:*** Observing Earth from Space (remote sensing), Modeling Geographic Objects (GIS), Modeling Geographic Space (GIS), Regression Modeling of Ecological and Environmental Data (R), Ecosystems and Landscapes, Natural Science Research Methods, Conservation in Practice: An International Perspective

**Worcester Polytechnic Institute** 2017- 2021 Worcester, MA

* B.S. in Biology and Biotechnology
* B.A. in Environmental & Sustainability Studies
* Minor in Social Entrepreneurship
* Provost’s (1st place) Major Qualifying Project Award in Department of Biology and Biotechnology
* GPA 3.84/4.00 Dean’s List and High Distinction

**AWARDS & GRANTS**

**NSF Graduate Research Fellowship (Pre-doctoral),** National Science Foundation (2021-2026) $138,000

**Yale Tropical Resources Institute Endowment Fellowship,** Yale University (2022-2023) $8000

**Yale Institute for Biospheric Studies Early Grant,** Yale University (2022-2023) $3500

**Yale Institute for Biospheric Studies Research Matching Funds,** Yale University (2022-2023) $500

**David T. Schiff Fund for Wildlife, Habitat, and Biodiversity Research,** Yale University (2022)$4000

**NSF Research Experience for Undergraduates (REU) Fellow,** Harvard University (2020) $6000

**Women’s Young Investigator Fellowship,** Worcester Polytechnic Institute (Sep 2019-Apr 2020) $1000

**RESEARCH EXPERIENCE**

**Master’s Thesis (PI: Dr. Oswald Schmitz)** New Haven, CT; Maun, Botswana

Yale School of the Environment Sep 2021- Present

* Differentiating livestock- and wildlife-mediated soil carbon storage in Botswana’s Makgadikgadi landscape using remote sensing, GIS, soil sampling, camera trap image analysis, and modeling
* Conducting field research in the Makgadikgadi Region of Botswana in summer 2022 to sample soil, determine wildlife vs. livestock presence, and ground-truth landscape features
* Collaborating with Dr. Gaseitsiwe S. Masunga, landscape ecologist and in-country advisor at University of Botswana’s Okavango Research Institute

**Graduate Research Assistant (Supervisor: Prof. Anna Behm Masozera)** New Haven, CT

Yale School of the EnvironmentJan-June 2022

* Co-authoring a publication on international collaboration in Central African mountain gorilla conservation
* Organizing co-author and reviewer comments, and exploring governance/policy literature to build on manuscript

**Graduate Research Assistant (PI: Dr. Oswald Schmitz)** New Haven, CT

Yale School of the EnvironmentSep 2021- Present

* Assisting PhD students with soil sampling and various lab analyses; learning methods for Master’s thesis research

**NSF Research Experience for Undergraduates (REU) and Visiting Undergraduate** Cambridge, MA

Harvard University (PI: Dr. Colleen Cavanaugh, Dept. of Organismic & Evolutionary Biology)May 2020-Present

* Participated in an NSF-funded Leadership Alliance (Summer Research- Early Identification Program) REU, studying bacterial symbiosis in the human oral microbiome with metagenomics and metatranscriptomics to identify the ecology of TM7x bacteria in health and disease
* Used Anvi’o ’omics platform to construct and refine metagenome-assembled genomes of Actinomyces and TM7 bacteria
* Annotated/compared gene abundance and functions in healthy versus diseased bacterial genomes and transcriptomes
* Professional development and mentorship from faculty, PhD students/postdocs, and Leadership Alliance

**Major and Interactive Qualifying Projects (MQP and IQP)** Worcester, MA

Worcester Polytechnic Institute, Depts.: Biology & Biotechnology and Social Science & PolicyMay 2019-Oct 2020

* Independently structured undergraduate thesis: “Social Integration Feasibility of Free-Ranging Dogs (FRD) for Animal Welfare, Public Health, and Conservation Benefits”
* MQP: Assessed local/national Indian perspectives, FRD welfare, and human-FRD interactions through interviews with professionals, an extensive literature review, and multivariate analyses of field study data from Kolkata, India
* IQP: Developed a system dynamics model and gaming environment for cost-benefit analysis of conventional FRD population management interventions versus a proposed social integration policy

**Research Volunteer (PI: Dr. Guangping Gao)** Worcester, MA

Horaë Gene Therapy Center, UMass Medical SchoolOct 2014-May 2016

* Assisted in development/transformation of adeno-associated virus of interest for gene therapy in Canavan disease
* Mentored by Dr. Dominic Gessler in laboratory skills and efficiency (PCR, agarose gel eletrophoresis, western blot, mouse handling/testing, etc.)

**PUBLICATIONS & PRESENTATIONS**

* ***Publication***: **Mallick, U.B.**, Bakermans, M.H., Saeed, K. 2021. Transforming a Liability into an Asset: A System Dynamics Model for Free-Ranging Dog Population Management. Systems *9*(56) doi: 10.3390/systems9030056
* ***Presentation***: 5th Annual Leadership Alliance National Symposium, “Bacterial Symbiosis in the Human Oral Microbiome: Combining Metagenomics and Transcriptomics to Identify the Ecology of TM7x in Health and Disease.” (Talk, August 2020)
* ***Presentation***: Society for Conservation Biology- North American Congress for Conservation Biology, “Modeling Social Integration Feasibility of Free-Ranging Dogs: A Population Management Intervention for Conservation Benefits” (Poster, July 2020)

**SKILLS**

* **Statistical/Spatial/Software**: ENVI (remote sensing), ESRI ArcGIS Pro, RStudio, STELLA (System dynamics modeling), Data visualization, Microsoft Office
* **Environmental/Biology technical skills**: Research and grant writing, Soil sampling/processing, avian banding, DNA extraction, metagenomics, metatranscriptomics
* **Languages**: Bengali (fluent), Hindi (intermediate), French (elementary/intermediate)

**TEACHING & MENTORSHIP**

**Mentor for NSF-REU Student** Worcester, MA

Worcester Polytechnic Institute Summer 2021

* Mentored an undergraduate researcher for 9 weeks; project exploring the effects of wind farms on bird population dynamics and habitat availability

**Peer Learning Assistant** Worcester, MA

Worcester Polytechnic InstituteOct 2018-May 2021

* 6 semesters: Biodiversity, Chemistry (lab), and System Dynamics
* Assisted professors with course management, laboratory supervision, project guidance, student office hours, and grading

**OTHER**

**Odissi Dance Teacher** Boston, New York City, New Haven

Independent 2020-Present

* Training students in the Nrityagram style of Odissi in Boston, NYC, and New Haven, and online for international students

**Professional Ensemble Member** Bangalore, India

Nrityagram Dance Ensemble (Indian classical dance style: Odissi)2014-2020

* 6 international tours: US (Lincoln Center, the Metropolitan Museum), India, UK, Sri Lanka, and Canada
* Conducted over 50 workshops and classes at universities and performance venues in the US, India, and Canada
* Trained local village children, city classes, and ensemble members at Nrityagram (2011-2020)