Brij Banerji

1512 Pickett Ave. | Knoxville, TN 37921
269-213-9001 | bbanerji@vols.utk.edu

EDUCATION

UNIVERSITY OF TENNESSEE — Knoxville, TN
Doctor of Philosophy in Physical Geography — *Aug. 2024 - Present*

COLUMBIA UNIVERSITY — New York, NY
Master of Science in Sustainability Science — *May 2023*

UNIVERSITY OF MICHIGAN — Ann Arbor, MI
Bachelor of Science in Environmental Science — *May 2019*

EXPERIENCE

LAMONT-DOHERTY EARTH OBSERVATORY - TREE RING LAB — **Palisades, NY**
Research Assistant/Research Staff — *Jan. 2022 - Aug. 2024*
- Cored and mapped remaining Hemlock population in Lamont Sanctuary Forest, generating data for program coursework while assessing local impacts of Hemlock Wooly Adelgid (HWA) on forest structure and succession.
- Processed, digitized, and measured over 500 core samples from 3 tree species in Bhutan and Nepal to be entered into International Tree Core Data Bank (ITRDB), expanding original chronologies by a factor of 3.
- Worked on an NSF project investigating climate divergence in white spruce sampled from Northern Alaska.
- Investigated novel use of Blue Intensity as density proxy in tree rings for use in paleoclimate reconstruction along a Himalayan transect on a joint NSF-NERC grant. Manuscript in progress.

INTERNATIONAL RESEARCH INSTITUTE FOR CLIMATE & SOCIETY — **Palisades, NY**
Research Assistant — *Sept. 2021 - Dec 2021*
- Created inventory and designed global educational materials for python libraries (PyCPT) to interface with the Climate Predictability Tool (CPT) to facilitate operational climate forecasting.

U.S. ENVIRONMENTAL PROTECTION AGENCY (ORD/LRTD) — **Cincinnati, OH**
Land Remediation and Technology Division Contractor — *Sept. 2019 - July 2021*
- Researched phytoremediation opportunities at Superfund sites through analyzing 200+ Superfund technical guidance documents and sitting in on site design pilot projects.
- Wrote user guide for beta version of upcoming environmental decision analytics tool, DASEES.
- Worked on data manipulation for a project assessing use of fluorescence data to model Deepwater Horizon oil plume.
- Conducted technical editing on internal and external reports as well as journal articles.

UM RESEARCH MUSEUM - MOLLUSK DIVISION — **Ann Arbor, MI**
Research Assistant — *Sept. 2018 - May 2019*
- Cataloged and digitized thousands of Mollusca specimens for the Zoology branch of the UM Research Museum working on a project sponsored by the National Science Foundation (Award Number: 1401450).
- Updated records of over 2 million Mollusca specimens in the museum's collection to an online platform, increasing specimen record longevity and access to data, to be deployed for habitat-based distribution modeling and analyses.
- Provided access to expertly vetted baseline data on species occurrences, abundances, and distribution ranges, for application in ecological restoration and conservation management.

URBAN HARVEST (Urban Agricultural Organization) — **Cape Town, South Africa**
Intern — *June 2018 - Sept. 2018*
- Taught 4 classes weekly on urban agriculture and led school-wide assemblies at Mary Kihn School for hearing impaired children, furthering understanding of self-sustaining food production and working with the school food garden.

- Designed and physically installed 24 unique urban food gardens around Cape Town, including community projects for schools and businesses, furthering food security in the region.
- Coordinated 5 volunteer projects with environmental social enterprise, Greenpop, to work gardens, run classes, and plant fruit trees at school and community gardens in Cape Town.
- Redesigned food garden designs to be 60% more water efficient using water recycling, gray water use, rainwater collection and use of various permaculture principles.

MENTORSHIP

UNIVERSITY OF TENNESSEE   **Knoxville, TN**
Teaching Assistant   *Aug. 2024 - Present*
- Lead instruction for GEOG 131, Introduction to Climate, Weather, and Climate Change.

COLUMBIA UNIVERSITY   **New York City, NY**
Teaching Assistant   *Jan. 2023 - April 2023*
- Assisted with supplemental instruction, grading, and coordination of student projects for the Urban Ecology course.

LAMONT-DOHERTY EARTH OBSERVATORY   **New York City, NY**
LDEO Open House Volunteer/Demonstrator   *Oct. 2022*
- Helped coordinate decoration and presentation of the Tree Ring Lab, where I gave demonstrations on tree ring measurement and lead tree coring demonstrations in the Lamont Sanctuary Forest for members of the public.

INDIAN AMERICAN STUDENT ASSOCIATION   **Ann Arbor, MI**
Choreographer   *Oct. 2017 - Nov. 2017*
- Choreographed and taught a routine for the annual IASA Cultural Show, the largest student-run production in North America.
- Acted as a site leader for 30+ students during IASA Gandhi Day of Service, working in a Detroit food kitchen making hot meals for over 80 members of the shelter.

HONORS & AWARDS

UM University Honors   *December 2017, April 2018*
CU Earth Institute Fellowship   *2021, 2022*
UTK Graduate Fellowship   *2024*
GSMCA Carlos Campbell Fellowship   *2025*

PROJECTS & PUBLICATIONS

Understanding Trans-Hemispheric Modes of Climate Variability: A Novel Tree-Ring Data Transect spanning the Himalaya to the Southern Ocean (NSF #2102759) **In Progress**

Tracking Divergent Warming and Tree Growth at the Arctic Treeline (NSF #2124889) **In Progress**

Acknowledgements: *Fluorescence-estimated oil concentration (Foil) in the Deepwater Horizon subsea oil plume* (Conmy et al., 2022), *Investigation of an immobilization process for PFAS contaminated soils* (Barth et al., 2021).

TALKS & PRESENTATIONS

LDEO Open House Poster (2022), SEDAAG (2024) : "Himalayan Climate Dynamics: A Blue Intensity Perspective"