To,

Professor Maria Uriarte

Dept. of Ecology, Evolution and Environmental Biology

Columbia University

mu2126@columbia.edu

Ref: Cover Letter for PhD Fellowship Opportunities

I am writing to express my interest in the PhD position in PhD Fellowship Opportunities in Ecology at Columbia University. I hold a Master's degree in Landscape Ecology and Nature Conservation from the University of Greifswald, Germany, and a Bachelor's degree in Forestry from Tribhuvan University, Nepal. My academic journey has equipped me with a foundation in ecological principles, statistical computing and research methodologies. Additionally, I have enhanced my capacity with key skills in data science and programming knowledge particularly using R and Python.

I have an experience of working at Forest Research and Training Center for more than eight years where, major responsibilities included national forest inventory and data analysis, tree biometrics and some application of remote sensing and GIS. Recently, I am working as a Research Officer at Climate Change Management Division under the Ministry of Forests and Environment, Nepal. In this role, I have been actively involved in preparing national GHG inventory reports, Nationally Determined Contributions (NDC) and other national reports related to climate change. My professional experience further motivated me to understand problems ranging from simple tree level computing to understanding spatial and temporal ecological processes over larger territories.

In past couple of years, I am keen on learning quantitative ecology and its practical application in forestry sector. While conducting national level inventory and data collection, many stakeholders seek method to interpolate those estimation to regional and local scale which has been a challenge for me. Since 2021, I am learning data science, statistical computing, machine learning algorithms and its application in environmental sector. I have been instructing non graduate and graduate students on R programming, data manipulation, data visualization and statistical analysis which significantly boosted my programming skills and gave me confidence on solving computational problems. Such extensive experience in forest inventory, data analysis, has exposed me to the pressing challenges in forestry and environmental management, particularly the need for robust quantitative solutions to inform decision-makers at various spatial scales. Additionally, I have been following the Inferential Statistics, Bayesian Statistics and its application but due to lack of sufficient experience I have not yet been able to apply these concepts to solve the research problems. Recently, while seeking an opportunity to work on an academic environment to focus on learning and applying quantitative / statistical ecology, I came across this announcement for graduate position.

I am eager to pursue a higher studies in ecology because it perfectly aligns with my professional inclination and research interests. I went through the ongoing projects in your lab which are related to the understanding effect of forest disturbance and land cover changes across ecosystems and its services. I am highly motivated to learn about the effect of several natural and human induced catastrophes in ecological process. Moreover your researches like *Tree crown overlap improves predictions of the functional neighborhood effects on tree survival and growth effects* are aligned to my area of interests. For example, we are using national scale forest inventory data to analyse effect of forest fire and other major disturbances in species composition and forest growth and Recently, I am engaged in the preparation of *Allometric equations of major seven tree species of Nepal.* I hope working with your team will boost my knowledge to look after these ideas in future.

Enclosed is my CV, which provides further details about my qualifications and achievements. I look forward to the opportunity to discuss how my skills and experiences align with the goals of the project.

Thank you for considering my application.

Prakash Lamichhane

18 September 2024

PRAKASH LAMICHHANE

Research Officer/Data Ananlyst/Ecologist

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Education and Awards

Sept. 2024	Distinguished Speaker Award	GIR	Korea
2017	DAAD ScholarShip Award	For Masters Study	Germany
2017 - 2019	M.Sc. Landscape Ecology and Nature Conservation	University of Greifswald	Germany
2010 - 2013	B.Sc. Forestry	Tribhuvan University	Nepal
2007 - 2009	Technical Level in Forestry (I.Sc.)	Tribhuvan University	Nepal

Work Experiences

2017 - 2019	M.Sc. Landscape Ecology and Nature Conservation, Greifswald University
2019 - 2023	Assistant Research Officer, Forest Survey and Carbon Monitoring Section under FRTC
2023 - Present	Research Officer, Climate Change Management Division, MOFE
Part-time	Lecturer, Natural Resource Economics, Kathmandu Forestry College

Research Experience

- Preparation of National Landcover monitoring System (NLCMS) using RandomForestClassifier.

- FRTC, 2020, A study of Opportunities and Constraints for Development of Private forestry Model in Mid-Hill Region of Nepal (A case study from Kavre and Kaski district of Nepal), Forest Research and Training Centre (FRTC), Babarmahal, Kathmandu, Nepal. Unpublished

- Preparation of Regional and National Forest Resource assessment (Involvement in field data collection, data analysis and report writing).

- Involvement in generating activity data and emission factors for national emission reduction report for MRV purpose in coordination with FCPF and World Bank.

Publications

- Aryal, S., Paudel, P., Bolakhe, S., Mahatara, D., & **Lamichhane, P**. (2022). Evaluation of error and efficiency on tree height measurement using Abney's level, Rangefinder and Vertex IV. *Indian Journal of Forestry*, 45(1), 1–8. DOI

- Parajuli, A., Gautam, A. P., Sharma, S., **Lamichhane, P**., Sharma, G., Bist, B. S., Aryal, U., & Basnet, R. (2022). A Strategy for involving community forest managers in effective forest fire management in Nepal. *Banko Janakari*, 32(1), 41–51. DOI

- Subedi, B., **Lamichhane, P**., Magar, L. K., & Subedi, T. (2022). Aboveground carbon stocks and sequestration rates of forests under different management regimes in Churia region of Nepal. *Banko Janakari*, 32(1), 15–24. DOI

- Gautam, G. P., Aryal, R. R., & **Lamichhane, P**. (2018). Restoration of degraded land through Moso bamboo (Phyllostachys pubescens) plantation in the Mid-hills of Nepal. *Banko Janakari*, 150–153. DOI

- Dhakal, R., et al. (2023). Developing Stem Taper of Shorea Robusta in the Far-Western Terai of Nepal. *Banko Janakari*, 33(2), 3–10. DOI

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Workshop and Seminar

- **July 2022**
  - Cross Country knowledge Exchange on REDD plus program in Cambodia dated from 12/06/2022 to 19/06/2022 Phnom Penn, Siem Reip and Koh Kong province of Cambodia (ORAL PRESENTATION)

- **December 2022**
  - South-South Knowledge Exchange on Measurement, Monitoring, Reporting and Verification systems, FCPF CF ERPA Implementation dated from 12/12/2022 – 18/12/2022 – Maputo, Mozambique.

- **March 2024**
  - Hands-on training workshop on transitioning to the ETF, including the preparation of the Biennial Transparency Report for Asia Region dated from 12/03/2024 to 15/03/2024 Singapore.

- **June 2024**
  - UN Climate Conference Bonn, Germany dated from 03/06/2024 to 09/06/2024

- **September 2024**
  - International Greenhouse Gas Inventory (IGC), 4 september 2024, Seoul organized by Greenhouse Gas Inventory and Research Center, Korea **(Distinguished Speaker Aaward)**

Major Skills

- National Forest data analysis and Reporting
- Mastering MS. Excel and R programming
- Carbon accounting and MRV process
- Uncertainty Estimation and Sensitivity Analysis
- Data Science with Python
- GIS Tools (QGIS, ARCGIS, Google Earth Engine etc.)
- Integrated Development Environments (IDEs)(i.e., R Studio, VS code, Pycharm, Jupyter Notebook, Collect Earth Online etc.).

References

- **Shiva Khanal PhD,Western Sydney University,Australia** Ministry of Forests and Environment, Kathmandu, Nepal,**Email:** khanalshiva1@gmail.com,**Phone:** (+977) 9841492155

- **Shes Kanta Bhandari PhD, University of Western Australia** Assistant Professor, Institute of Forestry, Tribhuvan University, **Email:** shes.bhandari@pc.tu.edu.np, **Phone:** (+977) 9765631067

- **Prof. Martin Wilmking, Ph.D. Professorship Landscape Ecology** Soldmannstr. 15, Room 1.37, University of Greifswald,**Email:** wilmking@uni-greifswald.de, **Phone:** +49 (0) 3834-4204095

Trainings as Trainee

- **23-27 May, 2022**
  - Training on Unbiased Area Estimation and Uncertainty Estimation for Forest Activity Data, USAID, USFS, SilvaCarbon Crystal Westespad

- **22- 26 August, 2022**
  - Development of National Landcover Monitoring System for Nepal, International Center for Integrated Mountain Development (ICIMOD) SERVIR-HKH initiative, kabir Uddin

- **10 October - 11 November, 2022**
  - On the Job training on Forest Carbon Stock Measurement using Earth Observation Data, International Center for Integrated Mountain Development (ICIMOD) SERVIR-HKH initiative, Rajesh Bahadur Thapa

- **12 May - 13 August 2023**
  - Data Science with Python,Broadways Infosys Pvt.Ltd.,Uttam Adhikari

- **21- 25 January 2024**
  - FCPF and ART TREES: Technical Training Workshop on REDD+ Emission Reduction Measurement, Reporting and Verification (30hours),REDD + Implementation center,SilvaCarbon, FCPF, The World-Bank Group Nepal,German Obando - Vargas

- **22-26 July 2024**
  - Earth Observation (LiDAR and GEDI) for forest carbonstocks monitoring in Nepal, ICIMOD, FRTC,SilvaCarbon,Rajesh Bahadur Thapa and Tim Devereux

- **19 Aug - 6 September 2024**
  - Climate Action and Support Transparency Training(CASTT) Programme on GHGs in Seoul,Republic of Korea,**UNFCCC**and Green House Gas Inventory and Research Center, South Korea, Jeong Eunhae,President, GIR Korea

Trainings as Trainer

- **Regular From 2022**
  - MS Excel and R Programming Trainer in Broadways Infosys

- **14 - 21 Aug, 2023**
  - Training on Python Programming, Forest Research and TRaining Center

- **26 Sept - 5 Oct, 2023**
  - Statistical Data Analysis and Forest Mapping, Forest Research and Training Center

- **4-13 Feb, 2024**
  - Enhancing Capacity on R Programming for Data Analysis and Carbon Accounting, REDD+ Implementation center