TOR: Project Researcher (Postdoc), Zohner Group at Center for Global Commons, Institution for Future Initiatives, The University of Tokyo

Recruitment Information for Project Researcher: Postdoctoral Researcher in Global Vegetation Traits & Biodiversity Tracking, Institute for Future Initiatives, The University of Tokyo

Position and contract (items 1–6)

No.	Item	Details
1	Available positions	Project Researcher, 1 person
2	Contract period	March 1, 2027 or the earliest possible date – March 31 2028
3	Renewal or not	The contract may be renewed on an annual basis, considering the budget situation, the worker's progress, the workload at the end of the contract period, work performance, work attitude, health status, etc. However, renewal shall be limited to one time until September 30, 2028.
4	Trial period	14 days from the date of hire
5	Work location	Hongo Campus, The University of Tokyo (7-3-1 Hongo, Bunkyo-ku, Tokyo). Scope of change: in principle, within the same institution
6	Affiliation	Center for Global Commons, Institute for Future Initiatives

Job description (item 7)

In our research center, we work at the interface of global vegetation ecology, remote sensing and climate change, addressing fundamental questions about ecosystem functioning and biodiversity in a changing world. We integrate experimental, meta-analytical and large-scale modelling approaches to understand feedbacks between plants and their environment.

We are developing a next-generation global biodiversity tracker built on remote sensing time series: annual, high-resolution (≤500 m) estimates of ecosystem state across all terrestrial biomes. The core concept is to model the potential state of vegetation (what each location on Earth should look like under undisturbed conditions) and to quantify deviation from that potential as a continuous, multi-dimensional index of ecological integrity. Team members are already working on vegetation height and on landscape connectivity and forest fragmentation.

We are seeking a postdoctoral researcher to lead the development of global vegetation trait layers beyond canopy height, which will form further components of the tracker. The tracker is designed to support global biodiversity reporting under the Kunming-Montreal Global Biodiversity Framework.

Key tasks and responsibilities are:

- Develop annual global layers for vegetation traits beyond canopy height, including gross primary productivity, leaf area index, vegetation optical depth, spectral diversity (Rao's Q via Sentinel-2) and vegetation phenology.
- Develop and implement machine learning models to estimate potential vegetation states from undisturbed reference sites at global extent.
- Validate the trait layers against field and independent data (e.g. flux towers, plot networks) and quantify their uncertainties.
- Process and manage large geospatial datasets using Google Earth Engine and/or HPC clusters.
- Lead approximately two first-author peer-reviewed publications per year arising from this work.
- Present findings at international conferences (e.g. AGU, ESA Living Planet, IAVS).
- Collaborate with team members at UTokyo and with partner institutes in Switzerland, including research visits.
- Contribute to grant reporting and assist in co-supervision of graduate students where appropriate.

Scope of change: the University may order employees to be reassigned to different positions, or order them to take up additional positions or to work on an external assignment.

Working conditions (items 8–12)

No.	Item	Details
8	Working days and working hours	Under the Discretionary Labor System for Professional Work, the employee is considered to have worked 7 hours and 45 minutes a day, 5 days a week.
9	Holidays	Saturdays, Sundays, holidays based on the National Holiday Law, and December 29th through January 3rd are holiday.
10	Vacation	Annual paid leave and special leave granted in accordance with employment regulations
11	Wages, etc.	An annual salary system will be applied, including performance and achievement allowances, in the range of 400,000 yen to 600,000 yen per month, to be determined according to qualifications, experience, etc. Commuting allowance (up to 55,000 yen/month, calculated in accordance with university regulations, if the employee meets the requirements). No retirement allowance or bonus. In principle, payment is made on the 17th of each month.

No.	Item	Details
12	Insurance coverage	Ministry of Education, Culture, Sports, Science and Technology Mutual Aid Association; employment insurance

Eligibility requirements (item 13)

Required qualifications for the applicants are:

- PhD in ecology, remote sensing, geography, environmental science or a closely related field, completed by March 1, 2027
- Demonstrated experience with large-scale geospatial analysis in R and/or Python
- Proficiency with Google Earth Engine or equivalent cloud-based remote sensing platforms
- Experience with at least two of the following: MODIS time series, Sentinel-2, Landsat, passive microwave (VOD/SMAP), solar-induced fluorescence or GPP products
- Track record of first-author peer-reviewed publications commensurate with career stage
- Strong written and oral communication skills in English

Desirable qualifications are:

- Experience with machine learning applied to spatial or ecological data
- Background in plant functional traits, vegetation phenology or ecosystem productivity
- Familiarity with biodiversity or ecosystem integrity frameworks (BII, MSA, SEED, EBV)
- Experience with spectral diversity methods (e.g. Rao's Q, rasterdiv)
- Knowledge of the terra, rasterdiv or tidyverse R ecosystem
- Conversational Japanese (not required but welcomed)

Application and other information (items 14–20)

14. Application documents

1. Cover letter: description of your relevant experience and motivation (max 2 pages)
2. Curriculum Vitae: the official format of The University of Tokyo must be used and can be downloaded at https://www.u-tokyo.ac.jp/en/about/jobs.html
3. List of publications by category (peer-reviewed journal articles, books, invited talks, etc.)
4. Names and contact information of two people who can provide reference opinions about the applicant

15. Application deadline: applications must be submitted by November 30th at 17:00 (Japan Standard Time). Short-listed finalists may be contacted to schedule an online interview. The recruitment will be closed as soon as a suitable candidate is selected.

16. How to submit: applications must include all materials in item 14 (1)– (4) as PDF files in one zip folder, sent to zohnerlab@ifi.u-tokyo.ac.jp with the subject line "Postdoc Application – Biodiversity Tracker".

17. Name of recruiter: The University of Tokyo

18. Enquiries: Prof. Constantin Zohner, Institute for Future Initiatives, The University of Tokyo, e-mail: zohnerlab@ifi.u-tokyo.ac.jp

19. Measures to avoid passive smoking: smoking is prohibited inside the grounds of the university. There are smoking areas outdoors on campus.

20. Others

- Personal information received through this application process will not be used for any other purposes.
- Please note that we are unable to answer any questions regarding the results of the selection process.
- Submitted documents will not be returned.
- Applications from women are encouraged as per the "Declaration of Gender Equality Acceleration" of the University of Tokyo. We strongly encourage applications from women and international candidates.
- If you are personally in contract with foreign governmental bodies, corporations or universities, or you are in receipt of a large benefit (financial or any other form) from foreign governmental bodies during the period of your employment, the provisions of the Foreign Exchange and Foreign Trade Act (FEFTA) may prohibit or restrict the sharing of technology that is designated as controlled technology, possibly making it difficult for you to fulfil your duties as an academic or administrative staff member of the university. In such cases, it is necessary to keep such contracts or benefits within a scope that does not hinder the sharing of technologies necessary for your duties at the university.