

Job Announcement ref.#12-23001
PostDoc position (m/f/d) in Soil Invertebrate Ecology and Metatranscriptomics

The Functional Environmental Genomics group at the LOEWE Centre for Translational Biodiversity Genomics is looking for an ambitious postdoc to investigate activity and functioning of soil communities along environmental gradients through metatranscriptomics.

About the project

We offer projects that address questions about the spatial and/or temporal dynamics, ongoing changes, biotic interactions, functionality and activity of soil biodiversity through metatranscriptomics, with a focus on soil invertebrate communities. Specialised laboratory and bioinformatics infrastructure are available for this purpose, with hundreds of newly generated reference genomes supporting metatranscriptomic read identification in soil invertebrates. Possible study systems are a climate gradient in an alpine environment and a spatio-temporal gradient of environmental change covering 25 years and 11 sites over Germany.

Our group

The Functional Environmental Genomics group aims to understand how structural and functional patterns of biodiversity change over space and time, and how these patterns are influenced by human impact. Work includes studies in community ecology and biomonitoring, whole genome sequencing, DNA- and RNA-based community analyses, ancient sedimentary DNA, and application of statistical tools to link changes in biodiversity to the environment¹⁻⁹.

Our group is part of the [LOEWE Centre for Translational Biodiversity Genomics](#) (TBG) and the [Senckenberg Biodiversity and Climate Research Centre](#) (SBIK-F) within the Senckenberg – Leibniz Institution for Biodiversity and Earth System Research, located close to the city centre of Frankfurt am Main. TBG provides access to cutting-edge laboratory, robotics and computational infrastructure. SBIK-F is an internationally renowned research hub covering interactions among the climate system and biodiversity. The group is interacting with researchers from the [Senckenberg Soil Zoology Division](#) in soil community projects, and maintains an active international network e.g. through the [Soil Invertebrate Genome Initiative](#). The working language in the group is English.

Your profile

- degree in community ecology, functional ecology, ecosystem ecology, or a related area (essential)
- a strong publication record (essential)
- excellent understanding of community assembly processes (essential)
- solid statistics skills and experience with statistical programs such as R (desired)
- experience in large-scale community data analysis or on soil ecology (desired)

We encourage candidates to apply if they fulfil the essential criteria. We explicitly consider parental leave and its effects on the applicant's career and publication track record during the selection process.

What is awaiting you?

Senckenberg and TBG provide flexible working hours, an annual special payment, a company pension scheme, the Senckenberg badge for free entry in museums, the zoo and Palmengarten, leave of absence due to family reasons (certified by “auditberufundfamilie”), and a leave of 30 days per year. Frankfurt is a vibrant and highly international city at the heart of Europe that combines a skyscraper skyline with ample park and green areas.



Place of employment:	Frankfurt am Main
Working hours:	Full time / part time 75% (30 hours/week)
Type of contract:	contract initially limited until 31.12.2024, starting as soon as possible
Salary:	according to the German collective agreement TV-H (pay grade E 13)

Senckenberg is committed to diversity. We benefit from the different expertise, perspectives and personalities of our staff and welcome every application from qualified candidates, irrespective of age, gender, ethnic or cultural origin, religion and ideology, sexual orientation and identity or disability. Applicants with a severe disability will be given special consideration in case of equal suitability. Senckenberg actively supports the compatibility of work and family and places great emphasis on an equal and inclusive work culture.

How to apply

Please send us your complete application documents (CV with publication list and contact information for at least two references, a summary of previous research experience (max 1 page), and copies of certificates, transcripts and grades) in electronic form as a single PDF file to Miklós Bálint (miklos.balint@senckenberg.de) and recruiting@senckenberg.de, **quoting the reference number #12-23001**. You can also apply directly on our homepage using the online application form <https://www.senckenberg.de/en/career/apply-online/>. The initial application deadline is 27 February 2023, but the search will continue until the position has been filled.

For more information please contact Prof. Dr. Miklós Bálint, miklos.balint@senckenberg.de or visit www.senckenberg.de or <https://www.senckenberg.de/en/institutes/sbik-f/functional-environmental-genomics/>.

Relevant publications

1. Merges, D. *et al.* Metatranscriptomics reveals contrasting effects of elevation on the activity of bacteria and bacterial viruses in soil. *Mol. Ecol.* <https://doi.org/10.1111/mec.16756> (2023)
2. Schmidt, A. *et al.* Shotgun metagenomics of soil invertebrate communities reflects taxonomy, biomass, and reference genome properties. *Ecol. Evol.* **12**, e8991 (2022).
3. Pfenninger, M. & Bálint, M. On the use of population genomic time series for environmental monitoring. *Am. J. Bot.* **109**, 497–499 (2022).
4. Formenti, G. *et al.* The era of reference genomes in conservation genomics. *Trends Ecol. Evol.* **37**, 197–202 (2022).
5. Schneider, C. *et al.* Two high-quality de novo genomes from single ethanol-preserved specimens of tiny metazoans (Collembola). *GigaScience* **10**, (2021).
6. Merges, D. *et al.* High throughput sequencing combined with null model tests reveals specific plant-fungi associations linked to seedling establishment and survival. *J. Ecol.* **108**, 574–585 (2020).
7. Bálint, M. *et al.* Environmental DNA Time Series in Ecology. *Trends Ecol. Evol.* **33**, 945–957 (2018).
8. Bálint, M. *et al.* Accuracy, limitations and cost efficiency of eDNA-based community survey in tropical frogs. *Mol. Ecol. Resour.* **18**, 1415–1426 (2018).
9. Bálint, M. *et al.* Millions of reads, thousands of taxa: microbial community structure and associations analyzed via marker genes. *FEMS Microbiol Rev* **40**, 686–700 (2016).