

Job advertisement

Vacancy ID: 098/2024

Closing date: 31.05.2024



Friedrich Schiller University is a traditional University with a strong research profile based in the heart of Germany. As a University covering all disciplines, we offer a wide range of subjects. Our research is focused on the areas Light—Life—Liberty. We are closely networked with non-research institutions, research companies and renowned cultural institutions. With around 18,000 students and more than 8,600 employees, our University plays a major role in shaping Jena's character as a cosmopolitan and future-oriented city.

The core mission of the [Cluster of Excellence "Balance of the Microverse"](#) of the Friedrich Schiller University Jena, Germany, is to elucidate fundamental principles of the interactions and functions in microbial communities in diverse habitats, ranging from oceans and groundwater to plant and human hosts. We aim to identify the shared characteristics of disturbed or polluted ecosystems as well as infectious diseases on the microbiome level, and develop strategies for their remediation by targeted interventions. The affiliated early career program of the Jena School for Microbial Communication (JSMC) offers an ambitious, structured and interdisciplinary post-graduate training based on top-level fundamental research.

The new Junior research group *Mechanisms of Metabolic Microbial Interactions* seeks to fill the position of a

Doctoral Researcher in Bioinformatics for Microbial Life Histories Prediction

commencing on 1st August 2024 or the earliest possible date thereafter. We offer a part-time position (65%) for three years with the possibility of an extension based on progress and funding availability.

Position Overview: *We are seeking a highly motivated Doctoral Researcher to join our pioneering project on the conceptualization and prediction of microbiome life history functions. This project aims to establish a computationally guided life history theory for host-associated microbiomes, focusing on the trade-offs microbes face between investment in growth, survival, and reproduction, and the traits enabling them to thrive in the host environment. Our work has already led to significant insights into the microbiome of *C. elegans*, utilizing life history frameworks for understanding competitive, stress-tolerating, and ruderal strategies. We are now looking to expand our research to cover diverse microbiomes across different habitats, with a keen interest in microbiome responses to changing conditions and how disturbed interactions can be rebalanced.*

Your responsibilities:

- **Conceptual Framework Development:** Expand existing life history theories to microbiomes, identifying and defining critical functional traits and contextualizing them within ecological and evolutionary theories.
- **Trait Prediction:** Employ computational methods for inferring life history traits using various bioinformatic software. This involves creating a bioinformatics pipeline for trait prediction, focusing on growth physiology, functional annotation of microbial genomes, and higher-level subsystem analysis.
- **Evaluation and Application:** Test the developed pipeline on diverse datasets to predict and compare life history strategies for host-associated and environmental microorganisms.

Your profile

- Master's degree in Bioinformatics, Microbiology, Computational Biology, or a related field.
- Experience with bioinformatics pipelines and tools (e.g., snakemake, nextflow) and large-scale data analysis on computer clusters.
- Strong analytical and problem-solving skills.
- Excellent communication and collaboration abilities

Desirable Skills:

- Familiarity with the life history frameworks or similar ecological and evolutionary theories.
- Proficiency in metabolic modeling, functional annotation of microbial genomes, or pathway analysis.

Are you hesitating because you don't meet one or some of our requirements? Please do not hesitate to apply and give us a chance to get to know you.

We offer:

- The opportunity to contribute to groundbreaking research in microbiome life history theory
- Access to state-of-the-art computational resources and a diverse array of microbiome datasets
- A comprehensive mentoring program and soft skill courses for early career researchers
- [Jena – City of Science](#): a young and lively town with a vibrant local cultural agenda
- A family-friendly working environment with a variety of offers for families: University Family Office 'JUniFamilie' and flexible childcare ('JUniKinder')
- Flexible working hours (flexitime and, if applicable, teleworking)
- University health promotion and a wide range of university sports activities
- Remuneration based on the provisions of the Collective Agreement for the Public Sector of the Federal States (TV-L) up to salary scale E 13 (depending on the candidate's personal qualifications) including a special annual payment in accordance with the collective agreement
- 30 days of vacation per calendar year plus two days off on December 24 and 31

The three-year position (65%) commences on 1st August 2024 or the earliest possible date thereafter.

We particularly encourage female researchers to apply, as we are committed to increasing the representation of women in science and providing a supportive and inclusive research environment.

Interested candidates should submit a CV, a motivation letter (max. 1-2 pages) explaining their interest in the project and how they meet the qualifications, and contact information for two references.

Candidates with severe disabilities will be given preference in the case of equal qualifications and suitability.

Join us in unraveling the complex interactions within microbiomes and their impact on health and disease, leveraging computational approaches to predict microbial life histories across various environments. Apply by **June 23, 2024** using our online form.

[Online application](#)



For further information on your application and the collection of personal data, please refer to our [Privacy Statement for Applicants](#)