LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

GeoBio-Center LMU

2 Postdoc/PhD Positions in Paleo-Phylogenetics

I invite applications for two postdoctoral or doctoral positions in paleo-phylogenetics in my research group at the GeoBio-Center of the Ludwig-Maximilians-Universität (LMU), München. The positions are part of my ERC Starting Grant "MacDrive". The positions are temporary research positions for 4 years (no classes and teaching required but possible). The starting date is flexible between 1st September 2022 and 1st September 2023. For these two positions, I invite application for both postdoctoral and PhD level. I am specifically looking for applicants with a taxonomic background to complement the existing expertise in my group.

The Project MacDrive aims to test which factors drive diversification rates, e.g., species-specific factors such as body size, habitat and diet, versus external factors such as the environment. To answer this question, we will estimate several species-level phylogenies with extant species and fossil species. Additionally, we will develop new statistical methods to estimate these time-calibrated phylogenies with fossil taxa based on both molecular and morphological data, as well as new statistical methods for diversification rate estimation. The methods will be integrated into our software RevBayes (https://github.com/revbayes/revbayes).

In this part of the project MacDrive, you will be responsible for estimating a time-calibrated phylogeny of two of these four groups: Carnivora, Cetartiodactyla, Squaliformes and Crocodyliformes. Since there are two positions, all four groups should be covered although similar groups for case studies can be discussed. The goal is to build a dataset that includes up to 75% of known fossil species. You will be responsible for building this morphological dataset, which is likely to include collecting the data from the primary sources. Then, you will be responsible for performing the phylogenetic analysis to estimate the time-calibrated phylogenies. During the project MacDrive, we will develop new approaches to estimate phylogenies for such datasets (done by another PhD student) and you will get the opportunity to contribute to this method development (e.g., testing these new methods on your data). Once these phylogenies are available, you will perform macroevolutionary analyses to test for drivers of diversification rates. Ideally, we will be able to identify common patterns shared across all study groups, such as the impact of mass extinction or the environment vs species-specific factors. This part of the project is in collaboration with Graham Slater (University of Chicago) besides our large group of local collaborators in Munich.

Applicants should have a PhD degree (if applying for the postdoctoral position) or a Master's degree (if applying for the PhD position), completed or completion imminent, in paleontology, zoology, evolutionary biology or a related field. The key skills required are taxonomic expertise of the study groups and good communication skills (oral and written English). Basic knowledge in phylogenetics, macroevolutionary analysis and statistical inference (especially R and Bayesian statistics) is beneficial but not required. Training in these skills will be provided depending on need. No knowledge of German is required but some basic knowledge will be helpful outside of work. Enthusiasm, determination and the capacity to work independently are essential. The candidate is highly encouraged to develop their own research ideas complementing the current research direction.

Dienstgebäude:
Richard-Wagner-Str. 10
80333 München

Öffentliche Verkehrsmittel:
U-Bahn Linien U2/U8 Königsplatz

My group is broadly working on theory and computational methods for Bayesian inference of phylogeny (https://hoehnalab.github.io). Our research directions include phylogeny inference, divergence time estimation, diversification rate estimation and model testing. All of our methods are implemented in the open-source program RevBayes (http://www.RevBayes.com) which is the successor software of the popular program MrBayes. The successful applicant will be part of our vibrant RevBayes group. There will be opportunities for the successful applicant to work with and visit the research groups of my collaborators in Europe and the USA. Furthermore, I expect the candidate to become actively involved in our RevBayes workshops as a lecture or teaching assistant.

My group is located at the GeoBio-Center of the LMU Munich, one of Germany's and Europe's top Universities (#32 world-wide; #8 in Europe; #1 in Germany; https://www.timeshighereducation.com/world-university-rankings/lmu-munich). The GeoBio-Center is located at the Königsplatz which is in walking distance to the historic city center (Marienplatz) and English Garden (city park with 3.75 km² area). The GeoBio-Center is highly interdisciplinary and consists of researchers from different departments including paleontology, molecular and evolutionary biology, zoology and botany.

The position will be compensated according to the standard LMU salary scheme (TVL-E13; approx. 4600€ monthly gross salary; approx. 2700€ monthly net salary, depending on experience level; https://oeffentlicher-dienst.info/tv-l/allg/). The salary includes benefits such as health care, 30 days of vacation per year, pension, unemployment insurance, child support (if applicable) and parental leave.

LMU Munich is an equal opportunity employer. The University continues to be very successful in increasing the number of female faculty members and strongly encourages applications from female candidates. LMU Munich intends to enhance the diversity of its faculty members. Furthermore, disabled candidates with essentially equal qualifications will be given preference.

Any questions should be directed to Sebastian Höhna (hoehna@lmu.de). Applications, including a letter of motivation and research idea (1 page), current CV and names and contact details of two referees should be sent to Sebastian Höhna by the deadline of 31 July 2022.