PhD position

Comparative genomics of placenta development in livebearing fish

Job description

One of the fundamental questions in biology is: "how do complex traits evolve?" Our ability to discern how complex traits evolved is limited because their origin occurred in the distant past and details of their evolution have been lost due to the extinction of species with intermediate stages of complexity. In this project you aim to unravel the molecular pathways that underlie the evolution of the placenta in the livebearing fish family Poeciliidae (which includes the guppy). This family evolved placentas multiple times independently and contains closely-related species as well as populations within species that vary markedly in placental complexity. The presence of this variation in placental complexity at such shallow taxonomic levels is truly unparalleled in nature and offers a unique opportunity to study the evolution of complexity. In the project you will apply a comparative genomics approach, studying multiple independent evolutionary origins of the placenta aiming to uncover the commonalities in genome architecture that underlie its evolution. The project will involve whole genome sequencing of selected species across the phylogeny, as well as the de-novo assembly and annotation of the genomes of a number of key species to fill in taxonomic gaps. You will aim to infer the evolution of genes and the modification of developmental and metabolic pathways during the evolution of the placenta. The project is for a period of 4 years.

Requirements

For this interdisciplinary project, we look for an enthusiastic, result-driven person with an MSc degree in biology, bioinformatics, or related field. The candidate should have affinity with evolutionary biology. Affinity with computational biology or bioinformatics is required, proficiency in a programming language (e.g. Python, R), and experience in working with Linux are highly valued. Excellent research skills are required and excellent communication skills and proficiency in English (both oral and written) are prerequisite.

Conditions of employment

Employment basis: temporary for a 4 year period, maximum hours per week: 38. Continuation of the appointment will be based on a performance evaluation after 18

months. Gross salary will increase from € 2222,- in the first year up to € 2840,- per month in the last year based on a full-time appointment (38 hours per week).

Employer

Wageningen University & Research: Wageningen University is the academic core of Wageningen University and Research (WUR), which is the largest biology-oriented research institution in The Netherlands. The mission of WUR is to explore the potential of nature to improve the quality of life. WUR trains professionals in applied and fundamental research, aiming for breakthroughs in science and technology.

The PhD student will work at the **Experimental Zoology (EZO)** and **Animal Breeding and Genomics (ABG)** groups of Wageningen University (both located at Wageningen University campus). The PhD student will be supervised by Dr. Pollux, an expert on placenta evolution in livebearing fish, and Dr. Megens, who is an expert on evolutionary genomics and bioinformatics. The PhD project is part of a larger research programme at Wageningen University led by Dr. Pollux that focuses on the causes, mechanisms and consequences of placenta evolution using cutting-edge interdisciplinary research, including field-based research, biomechanics, life history evolution, quantitative genetics, functional genomics and bioinformatics.

Additional information

Applications should include a letter of motivation, CV and names of three references. **You can apply for this position until September 25, 2017.**
* Online (preferred): http://www.wur.nl/en/Jobs/Vacancies/Show/PhD-position-Comparative-genomics-of-placenta-development-in-livebearing-fish-.htm
* Or send your application directly via email to Dr. Megens and Dr. Pollux.

For more information regarding this position, please contact:
Dr. Hendrik-Jan Megens, Animal Breeding and Genomics, phone: +31(0)317 482469, email: hendrik-jan.megens@wur.nl or **Dr. Bart Pollux**, Experimental Zoology, phone: +31.(0)317 486083, email: bart.pollux@wur.nl, website: www.bartpollux.nl

Acquisition regarding this vacancy is not appreciated.