PhD position in animal ecology: Causes of variation in mutation rate

Published: 2017-02-09

Uppsala University is an international research university focused on the development of science and education. Our most important assets are all the individuals who with their curiosity and their dedication make Uppsala University one of Sweden’s most exciting work places. Uppsala University has 40,000 students, 7,000 employees and a turnover of SEK 6.5 billion.

The Evolutionary Biology Centre hosts one of the world’s largest aggregations of evolutionary biologists and is a prime research environment for a wide range of fields in biology. The research at the Department of Ecology and Genetics spans from evolutionary ecology and genetics to studies of ecosystems, including a large number of high-profile projects addressing natural and sexual selection, local adaptation, speciation, molecular evolution, microbial diversity, and ecosystem processes. Our graduate school offers a creative and stimulating environment and a rich variety of seminars, journal clubs, courses and many possibilities to interact with other researchers and students. The working atmosphere is international with English as our operational language. See http://www.ieg.uu.se/ for more information.

Project description: Variation in mutation rate is a pivotal determinant of rates of adaptation and extinction and a causative agent in human health problems, including ageing, cancer, and genetic disease. Mutation rate has typically been treated as an invariable species-specific parameter but this view has recently been challenged by studies showing that mutation rate can vary with health, nutritional state, sex, and age. The evolutionary causes and consequences of this variation remain largely unexplored and the successful applicant will take an experimental approach to understand among-individual variation in mutation rate with the overarching aim to explore how this variation may influence evolution in novel environments.

The research will take advantage of the finished genome assembly of the seed beetle Callosobruchus maculatus, potentially combined with experiments on other available laboratory study systems such as butterflies, fruit flies and nematode worms. The successful candidate will employ experimental evolution and/or mutation
accumulation approaches in combination with comparative analysis of quantitative
genetic and genomic data. The candidate will work in direct association with one
principal investigator Dr. David Berger (main supervisor), and share lab space and
interact with members of Prof. Göran Arnqvist’s group. Currently, the beetle lab
consists of 10 members in total. The position is funded by the Swedish Research
Council (VR).

**Qualifications:** A relevant master degree or equivalent in evolutionary biology,
genetics, ecology or a related field. We seek highly motivated candidates with a
broad interest in evolutionary biology. Experience in
quantitative/molecular/population genetics, or in life history- and sexual selection
theory, is an advantage. Experience of laboratory work or in using statistical software
or programming language (e.g. R, SAS, Mathematica, Python) is a merit. Because
the holder of this position will interact closely with other lab members, we will put
emphasis on personal traits and the ability to be both independent and collaborate
within our group. The applicant is expected to be fluent in English.

**Position:** The graduate program covers four years of full-time study. The position
can be combined with teaching (maximum 20%), which prolongs the employment
with the corresponding time. The successful candidate will receive salary and full
social benefits according to local agreements. More information about salary levels:
http://www.saco.fackorg.uu.se/verksamhet/doktorandfragor/doktorandstege

Rules governing PhD candidates are set out in the Higher Education Ordinance
Chapter 5, §§ 1-7 and in Uppsala university's rules and guidelines
http://regler.uu.se/Rules_and_regulations_in_English/. More information about
postgraduate studies at Uppsala University are available at
http://www.teknat.uu.se/education/postgraduate/.

**Application:** The application should include 1) a letter describing yourself, your
research interests, and motivation for why you apply for the current position and want
to do a PhD, 2) a CV 3), a short description of your education, 4) an authorized copy
of your master degree and course grades, 5) the names and email of at least two
referees, 6) relevant publications (including master thesis). The application should be
written in English.
Uppsala University aims for gender balance and diversity in all activities in order to achieve a higher quality at all levels of the organization. We therefore welcome applicants of any gender and with different birth background, functionality and life experience.

Pay: According to local agreements

Starting: As soon as possible or as otherwise agreed.

Working hours: 100 %

For further information about the position please contact Dr. David Berger, email: david.berger@ebc.uu.se, tel: +46 (0)18 - 471 2662. More information about the research: http://www.ieg.uu.se/animal-ecology/Research+groups/berger-lab/berger-research/

You are welcome to submit your application no later than 2017-03-15, UFV-PA 2017/373.

We decline offers of recruitment and advertising help. We only accept the application the way described in the advertisement.

Placement: Department of Ecology and Genetics
Type of employment: Full time, Temporary position longer than 6 months
Pay: Fixed pay
Number of positions: 1
Working hours: 100%
Town: Uppsala
County: Uppsala län
Country: Sweden
Union representative: Marie Ols, TCO/ST 018-471 2459
Per Sundman, Saco-rådet 018-471 1485
Stefan Djurström, Seko 018-471 3315
Number of reference: UFV-PA 2017/373
Last application date: 2017-03-15

Login and apply