

\*\*\*\* PhD position: evolution of mate choice and speciation | Helmholtz

Center for Ocean Research, Kiel, Germany\*\*\*\*\*

The Helmholtz Center for Ocean Research (GEOMAR) seeks to recruit a PhD student in Evolutionary Biology. The PhD student will be funded by a German science foundation (DFG) grant, entitled "/Interactive effects of environmental change and host-parasite co-evolution on the ecological speciation of sticklebacks/".

The project:

We aim at testing experimentally the relative contribution of natural and sexual selection on the process of ecological speciation using the three-spined stickleback as model organism. Both abiotic (eutrophication) and biotic (parasitism) pressures will be manipulated in large scale mesocosm experiments and ecological (mate choice) and genomic/transcriptomic changes will be followed over generations. The project is part of the Lead Agency Program and will be performed in strong collaboration with Dr. Blake Matthews' lab (EAWAG, Kastanienbaum, Switzerland).

The candidates should:- Be highly motivated.- Have a master degree (or equivalent) in Evolutionary biology, Animal biology, Genetics or any related fields.- Be interested in host-parasite coevolution, evolution of mating strategies, speciation, genomics and evolutionary consequences of climate change.

The hosting lab:

The GEOMAR is an international research institute affiliated to the University of Kiel (Germany). The working language of the department is English. The successful student will join the junior research group of Dr. Christophe Eizaguirre, which is part of a larger department led by Prof. Thorsten Reusch. The research activities in the department are diverse and include host-parasite interactions, conservation genetics, fishery and fishery induced evolution. The starting date for the PhD student is flexible, but a start in mid-March, 2012 is preferred. The position is offered for 3 years and follows the standard German regulations. Potential candidates are encouraged to contact Dr. Eizaguirre before submitting a full application. Applications should include a cover letter, a CV, and names of two academic references. Copies of prior publications or theses will also be considered if made available via PDF.

The GEOMAR is an equal right employer and therefore encourages applications from all possible candidates meeting the academic prerequisites. Please submit your application by 15th Feb 2012 as a single PDF file to Dr. Christophe Eizaguirre ([ceizaguirre@ifm-geomar.de](mailto:ceizaguirre@ifm-geomar.de)).

For further information: please visit GEOMAR's website (<http://www.geomar.de/en/>) contact Dr. Christophe Eizaguirre (<http://www.ifm-geomar.de/index.php?id=ceizaguirre&L=1>)

PhD position in limnology, studying coevolution between a host and its gut microbiota at Uppsala University, Sweden. A PhD position is available at Limnology, the Department of Ecology and Genetics, Evolutionary Biology Centre, Uppsala University, starting spring 2012.

The PhD student will work in a project studying coevolution and co-divergence between a host (Eurasian perch) and its gut bacteria. Individuals within a population frequently specialize on different diet items. In this project, the student will for example test the effect of diet and diet shifts on individual's gut microbiota as well as the effect of the evolutionary divergence in populations on divergence in gut bacteria. For further information regarding the position and project, please contact Assistant Prof. Richard Svanbäck, e-mail: [richard.svanback@ebc.uu.se](mailto:richard.svanback@ebc.uu.se)

[http://www.anst.uu.se/risva021/Richard\\_Svanbacks\\_web\\_pages/Home.html](http://www.anst.uu.se/risva021/Richard_Svanbacks_web_pages/Home.html)

Read the full announcement and apply via:

<http://www2.personalavd.uu.se/ledigaplatser/212PHD.html> or in Swedish:

<http://www2.personalavd.uu.se/ledigaplatser/212doktorand.html>

Announcement

Senior Research Fellow - HERPETOLOGIST

In maintaining and extending a specific group of senior research fellowships intended for excellent researchers, the Vrije Universiteit Brussel demonstrates its commitment to pioneering research initiated and carried forward by the curiosity of the individual research worker. The availability of these senior research fellowships is designed not only to encourage research in general but also to broaden the opportunities for a university career in research and to enable the university to implement a staffing policy to this end. In this context, applications are invited for the post of full time Senior Research Fellow, to be appointed on grounds of personal excellence in a research theme given priority in the University's research policy.

Starting date: 1 October 2012. Terms: The Senior Research Fellow's work will be primarily research, with a maximum of 120 teaching hours per year (i.e. 60 teaching hours per semester).

Contract and duration: Appointment as senior academic staff ('Zelfstandig Academisch Personeel' - ZAP), preferably full time and at least for 80%, with a Senior Research Fellowship for 5 years initially, renewable for a second period of 5 years after positive evaluation. Afterwards possibility for further continuation of the academic career as regular faculty staff.

Topics: Applications should envisage research topics in the following theme: Antimicrobial and bioactive peptide evolution in amphibians. Information about research at the VUB in this field may be obtained from the VUB website

(<http://www.vub.ac.be/english/infoabout/research/index.php>) or downloaded from the call's webpage ([http://rd-ir.vub.ac.be/en\\_GB/news/show/id/2009](http://rd-ir.vub.ac.be/en_GB/news/show/id/2009)).

Requirements: An excellent research record on the basis of international peer review is the most important selection criterion. As a formal minimum requirement, applicants must hold a PhD awarded on the basis of an original thesis, obtained maximum 12 years before the starting date of the fellowship (for female candidates this maximum period is extended with one year per child, until a maximal extension of 3 years). The call is aimed at researchers whose expertise is internationally recognized after three or more full years of postdoc experience.

Contact person: Professor L. Wyns, Vice-rector responsible for Research (tel. 32-(0)2-629.21.08, fax 32-(0)2-629.36.40, e-mail [vicerektor.onderzoek@vub.ac.be](mailto:vicerektor.onderzoek@vub.ac.be)).

Applications: - Applicants need to use the specific application form for this vacancy, which may be downloaded from the call's webpage or obtained from the Research & Development Dept (R&D, tel. 32-(0)2-629.21.08). The relevant regulations may be obtained from the same source. - The application should be submitted online or via [vicerector.onderzoek@vub.ac.be](mailto:vicerector.onderzoek@vub.ac.be), as specified on the call's webpage.

Deadline: Applications should arrive on Monday 20 February 2012 at the latest (local time).

Research scientist permanent position at INRA Rennes

Fish population dynamics in a changing environment

You will be in charge of developing research projects on the evolution of diadromous fish populations. You will have access to time series data (since the late 1970s) from surveys at the population and individual levels (runs and capture of adults, recruitment and life history traits). The project will focus on French populations but comparative approaches at the scale of distribution areas will be initiated. The aim will be to identify ecological and evolutionary mechanisms underlying the observed changes in demography and life history strategies. Data on key environmental factors (temperature, discharge, rainfall, water and habitat quality) will also be used to develop scenarios of population responses over the long-term (>50 years).

Applicants should have expertise in population biology, statistical ecology, analysis of population dynamics data, and preferably have programming skills. A PhD degree is required. A postdoctoral experience (in another lab than the one where the PhD work was performed) is not mandatory but should be quickly acquired by the successful candidate. Details on how to apply and the guide for applicants will be available on January 26<sup>th</sup> on the INRA (French National Institute for Agricultural Research) national website:

[http://www.international.inra.fr/join\\_us/inra\\_to\\_recruit\\_nearly\\_50\\_research\\_scientists](http://www.international.inra.fr/join_us/inra_to_recruit_nearly_50_research_scientists)

Deadline for application is February 28<sup>th</sup>. For more information please contact: Jean-Luc Baglinière

[jean-luc.bagliniere@rennes.inra.fr](mailto:jean-luc.bagliniere@rennes.inra.fr)

Tel: +33 2 23 48 54 44 Lab web site: [http://www.rennes.inra.fr/ecologie\\_sante\\_ecosystemes](http://www.rennes.inra.fr/ecologie_sante_ecosystemes)

Postdoctoral position in Host-parasite evolutionary ecology. University of

Liverpool

Inherited microbes have recently emerged as incredibly important elements of arthropod ecology and evolution, determining host features as diverse as reproductive system, susceptibility to natural enemies, and host plant usage. Despite passing maternally from a female to her progeny within species, these microbes establish regularly in new host species following host shifts events. However, the 'fit' in new host-symbiont combinations is never perfect. This project will consider two questions:

- a) To what extent does natural selection in the early stage of new symbioses act to produce a fit between microbe and host?
- b) What microbe systems are involved in producing this fit? We are seeking a postdoctoral scientist to join a NERC funded project examining the effects of host shift events on the tempo and mode of evolution of inherited microbes. The project will generate 'artificial' combinations of host and microbe and examine the transmission rate and fitness effects of these microbes at the point of

introduction. The parasite will then be passaged through the new host and its evolution monitored both through phenotypic assays and whole genome resequencing. The latter will be used to create a view of how evolutionary rates alter on a genome scale following host shift events of different magnitudes, and also to identify the elements of the genome that are evolving in response to host shift events. This data will then be examined alongside genome sequence for natural isolates of the parasite obtained from different host species in the wild, to examine whether host shift events have driven the diversification of the pathogen that is observed in the natural environment. The project will work use *Nasonia* wasps as a model host. In addition to driving the project, the postdoc will be expected to manage the daily activities of a technician in maintaining and characterizing the infections. The work will require someone who is hardworking and meticulous, and able to maintain long term experimental cultures of insects and their parasites.

Quantitative skills are also important. The project will require analysis of NGS data, although training will be given in this area if necessary. The project is for 2.5 years, and is supervised by Prof. Greg Hurst, Prof. Steve Paterson, Dr. Mike Brockhurst and Dr. Kayla King at the Institute of Integrative biology at the University of Liverpool

(<http://www.liv.ac.uk/integrative-biology/>). The appointee will join the Ecology, Evolution and Genomics of Infectious Disease Research Group (<http://www.liv.ac.uk/integrative-biology/research/ecology-evolution-and-genomics-of-infectious-disease/>). This research group, which comprises eight academic staff members and their individual groups, investigate host-parasite interactions at a variety of levels, with particular interests in Wildlife disease dynamics, the impact of coinfection on the ecological and evolutionary dynamics of parasites, the dynamics of coevolution between hosts and parasites, and Parasite genomics. The group is currently supported by extensive grants from the NERC, Wellcome Trust, BBSRC and MRC. Three relevant publications for this project are: Duron, O et al. 2010. Interspecific transmission of a male-killing bacterium on an ecological timescale. *Ecology Letters* 13: 1139-1148

Wilkes T E et al (2010) The draft genome sequence of *Arsenophonus nasoniae*, son-killer bacterium of *Nasonia vitripennis*, reveals genes associated with virulence and symbiosis. *Insect Molecular Biology* 19: 59-73

Paterson S, et al. (2010) Antagonistic coevolution accelerates molecular evolution. *Nature* 464:275-278

Informal enquiries about this position can be made to Greg Hurst ([g.hurst@liv.ac.uk](mailto:g.hurst@liv.ac.uk)<<mailto:g.hurst@liv.ac.uk>>). Full details of the post, and the process for application, can be found at: [http://www.liv.ac.uk/working/job\\_vacancies/research/R-5749291.htm](http://www.liv.ac.uk/working/job_vacancies/research/R-5749291.htm).

Applications should be submitted on the appropriate forms to [jobs@liv.ac.uk](mailto:jobs@liv.ac.uk) by the 3rd of February. We would hope the appointed candidate would start in April 2012, in time for a Spring Field collection.

Greg Hurst, Institute of Integrative Biology, University of Liverpool

PhD project available at the University of St Andrews: evolutionary genomics of social behaviour and reproductive isolation

We are seeking an enthusiastic PhD student to work on a project using two closely-related Australian field cricket species (*Teleogryllus oceanicus* and *Teleogryllus commodus*) and next-generation sequencing to identify influences of the social environment, behavioural mechanisms, and associated candidate genes that contribute to reproductive isolation. The student will work towards three goals: (1) test how variation in the social environments of *T. oceanicus* and *T. commodus* affects the expression of behaviours that impede hybridisation between the two species, (2) use genetic markers and QTL crosses to map genomic regions implicated in responses to social information and (3) identify and characterise candidate genes in those regions. The student will develop bioinformatic techniques to integrate and visualise the resulting network of genetic, mechanistic and behavioural information. Existing laboratory populations of both species and funding available for behavioural work and genetic mapping make the project feasible and will facilitate a timely finish by the postgraduate student. The student will be based at St Andrews and will be supervised by Dr. Nathan Bailey. She or he will also benefit from co-supervision by Prof. Michael Ritchie and from a highly dynamic and stimulating intellectual environment with regular interaction between geneticists, behavioural ecologists and other evolutionary biologists. St Andrews is a leader in behavioural research, and there is a vibrant, friendly postgraduate community.

For informal inquiries, contact Nathan at [nwb3@st-andrews.ac.uk](mailto:nwb3@st-andrews.ac.uk). Further details about the lab can be found on [www.flexiblephenotype.org](http://www.flexiblephenotype.org). The successful candidate will have a Bachelor's or Masters degree in a related field such as behaviour, evolution or genetics, and a background in, or a demonstrated ability to learn, the experimental and statistical techniques the project will entail. The starting date is September 2012. Applications must be made through the University of St Andrews, and forms and further information can be found on the university website (<http://www.st-andrews.ac.uk/admissions/pg/>).

## PHD STUDENTSHIP IN SEXUAL SELECTION AND EVOLUTION OF SPERM TRAITS AND

### FUNCTION

We offer a four-year PhD studentship to study the role of sexual selection on energy metabolism and oxidative stress in mammalian spermatozoa. The study will integrate different levels: evolutionary biology, reproductive physiology, cell biology and biochemistry. The aim is to understand whether sperm competition enhances sperm energy metabolism which, in turn, generates oxidative stress in sperm. The study involves intensive laboratory work to analyse semen quality, sperm traits, energetic metabolism, membrane composition and oxidative stress. We are looking for candidates with a solid evolutionary background. Previous experience in reproductive physiology and/or cell biology and biochemistry would be highly desirable. A BSc degree in Biology is the required minimum. Ideally, candidates should have a MSc degree. If interested please send CV to Eduardo Roldan ([roldane@mncn.csic.es](mailto:roldane@mncn.csic.es)) with a cover letter explaining your scientific background, interests, and willingness to spend a few years in Spain.

For information about previous and ongoing projects and publications see: [www.gebir.csic.es](http://www.gebir.csic.es)

Eduardo Roldan, Reproductive Ecology and Biology Group, Museo Nacional de Ciencias Naturales (CSIC) Jose Gutierrez Abascal, 228006 Madrid, Spain "[MONTSEGK@telefonica.net](mailto:MONTSEGK@telefonica.net)"  
<[MONTSEGK@telefonica.net](mailto:MONTSEGK@telefonica.net)>