7 PhD positions open within the framework of the So-Long (sociality and reversal of the fecundity-longevity trade-off) Research Unit

We invite applications for 7 PhD positions within the framework of the new Research Unit **‘Sociality and the reversal of the fecundity/longevity trade-off’ (FOR 2281)** funded by the German Research Foundation (DFG).

Why do organisms age? The genetic underpinnings of ageing seem to be highly conserved from nematode worms to humans. Across animals, ageing is characterized by a trade-off between fecundity and longevity, with an increase in fecundity commonly associated with accelerated senescence and a drop in lifespan. A major exception to this pattern is found within the social insects. Some social insect queens are record holders with respect to longevity whereas their sterile workers are short-lived. The aim of the Research Unit ([www.so-long.org](http://www.so-long.org/)) is to explore, in a highly integrative and interdisciplinary fashion, the ultimate and proximate reasons for the apparent reversal in the fecundity/longevity trade-off associated with sociality by using all major clades of social insects, with *Drosophila melanogaster* as model non-social organism. Projects will apply a broad range of approaches from experimental manipulation, field-based studies and molecular genetic studies (e.g. qt RT PCR, NGS) to theoretical evolutionary modelling and bioinformatic analyses. Beyond the project work, PhD candidates will benefit from dedicated workshops, will organize their own summer schools, will have the opportunity to participate in lab rotations and to attend international conferences.

PhD positions are available on the following topics:

* Comparative analysis of molecular mechanisms of ageing in flies and social insects (Dr. Claudia Fricke, University of Münster; claudia.fricke@uni-muenster.de)
* Defying senescence – The causes of death and the costs of living of ant queens (PD Dr. Jan Oettler / Prof Dr. Jürgen Heinze, University of Regensburg; jan.oettler@biologie.uni-regensburg.de; juergen.heinze@biologie.uni-regensburg.de)
* A comparative approach to the fecundity/longevity trade-off across two origins of eusociality in the bees (Prof. Dr. Robert Paxton, University of Halle / Dr. Karen Meusemann, University of Freiburg; robert.paxton@zoologie.uni-halle.de; karen.meusemann@biologie.uni-freiburg.de)
* Functional basis of the fecundity - longevity reversal in the ant Temnothorax rugatulus (Prof. Dr. Susanne Foitzik, University of Mainz / Dr. Barbara Feldmeyer, Senckenberg BiK-F Frankfurt; foitzik@uni-mainz.de, barbara.feldmeyer@senckenberg.de)
* Uncovering the functional basis of the reversal of the fecundity/longevity trade-off in a termite (Prof. Dr. Judith Korb, University of Freiburg; judith.korb@biologie.uni-freiburg.de)
* Reversal of the fecundity / longevity trade-off across social transitions in ants (Dr. Volker Nehring, University of Freiburg / Prof. Dr. Susanne Foitzik, University of Mainz, / Dr. Romain Libbrecht, University of Mainz; volker.nehring@biologie.uni-freiburg.de, foitzik@uni-mainz.de, rlibbrec@uni-mainz.de)
* Why and how does sociality change the fecundity / longevity trade-off in termites? (Prof. Dr. Judith Korb, University of Freiburg / Prof. Dr. Ido Pen, University of Groningen; judith.korb@biologie.uni-freiburg.de, i.r.pen@rug.nl)

Applicants should have a strong background in evolutionary biology and, depending on the project, also skills in bioinformatics (e.g. scripting) or field work. For further details of specific projects, email the relevant contact person listed above. Within your application, please state your preferred project, in ranked order from 1 (most preferred) to 3. The research consortium will jointly select candidates for the positions. Skype/phone interviews are scheduled for the last week of July and 1st week of August. The start of the positions is anticipated to be 1 Oct 2018, with a pre-start kick-off meeting from the 3-5 Sept 2018 in Germany.

Interested candidates should send their applications (incl. CV, a letter of motivation, and contact details of two academic references) as single file pdf by 8 July 2018 to:

Judith.Korb@biologie.uni-freiburg.de

For further information please contact:
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## Deadline for applications: July 8, 2018!