

A PhD student position within the EU-funded Marie Skłodowska-Curie Innovative Training Network BINGO (Breeding Invertebrates for Next Generation Biocontrol) is available at the Laboratory of Genetics and the Animal Breeding and Genomics Centre of Wageningen University in the Netherlands. About the position: The candidate will work on the development of genome-based selection for the improvement of natural enemies in biocontrol. Intraspecific genetic variation in arthropods is often studied in the context of evolution and ecology. Such knowledge can also be very usefully applied for selection of genotypes with optimal trait values to develop more effective biocontrol agents. For complex life-history or behavioural traits that lack easily recordable morphological phenotypes (i.e. longevity, development time, fecundity), the selection process can be laborious. Knowledge of the genomic regions underlying the traits can facilitate the screening and selection process. Genome-based selection (GS) methods use information from genome-wide DNA-markers to efficiently select for such complex traits. While they have been shown to hold great potential for plant and animal breeding, GS methods have not yet been applied for the improvement of natural enemies. This project seeks proof-of-principle for the use of genome-based selection for key life history and natural enemy traits in the model parasitoid wasp *Nasonia vitripennis*. The aim is to develop selection protocols for insect natural enemies and apply these for the genome-based selection of *Nasonia* lines for complex life-history traits. The project will involve: (1) A quantitative genetics approach, known as (genomic selection,) to accommodate the haplodiploid nature of parasitoids and other natural enemies; (2) Genomic data generation and analysis using next-generation sequencing technologies; (3) Large-scale phenotyping of complex traits in *Nasonia*. For more details on this position, see <http://bit.ly/1D3tcLT>

Qualifications: We seek a bright, highly motivated, and enthusiastic researcher with a skill set suitable to the project and who is able to work both as part of a team and independently. Our ideal candidate has a strong quantitative or statistical genetic background, experience with bioinformatic analysis, and life-history or behavioural work in insects. You have a master degree in quantitative genetics, statistical genetics, animal or plant breeding, or evolutionary biology, with a good background in population genetics, bioinformatics, genomics or computational biology. Candidates from other programs, with a strong interest in the application of quantitative methods in genetics are also invited to apply. Experience with NGS technologies and genomic data analysis is a plus, but training will be provided. Insect experimental work will be part of the project. The language in the lab is English. Therefore, a high standard of spoken and written English is required. **Eligibility:** Candidates must be, at the time of recruitment by the host organisation, in the first four years (full-time equivalent) of their research careers and have not yet been awarded a doctoral degree. This is measured from the date when they obtained the degree, which would formally entitle them to embark on a doctorate (e.g. Master degree). Eligible candidates may be of any nationality but must not, at the time of recruitment have resided or carried out their main activity (work, studies, et cetera) in The Netherlands for more than 12 months in the 3 last years immediately prior to the recruitment date. **BINGO-ITN:** The BINGO-ITN is funded by the EU Horizon2020 programme and involves 12 partners from academia, non-profit organizations, and biocontrol industry located in the Netherlands, Germany, France, Spain, Czech Republic, Austria, Switzerland, Greece and Portugal. BINGO's approach is multidisciplinary, encompassing a broad range of scientific disciplines, including the application of state-of-the-art population genomics. The BINGO programme combines integrated training workshops and internship opportunities

across the network, with career opportunities in academia, public or the private sectors. You will work in close cooperation with PhD students and researchers involved in related BINGO research projects. Secondments are planned to other BINGO participants. For more information about the BINGO project and other PhD projects see

www.bingo-itn.eu

How to apply: To apply, please provide a letter of motivation and a detailed CV by e-mail to:

1. Dr. Bart Pannebakker,
bart.pannebakker@wur.nl

& Dr. Piter Bijma,
piter.bijma@wur.nl

2. CC to:
info@bingo-itn.eu

3. Add subject: BINGO-Application RP13 We will be considering applications until
1st of August 2015

, the ideal starting date is 1 September 2015