

Master Project for Bioinformatics students

Long live the queen! ***Gene expression analysis to detect genes associated with longevity and fecundity in ants***



Advisors

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Ant queens can live up to 30 years and can have millions of offspring. In most species, there is a trade-off between fecundity and longevity, but not in social insects.

- How can these extraordinarily long life spans and fecundities achieved?
- Which genes are involved on the molecular level?

We obtained three large-scale RNAseq data sets, which allows to analyse, which genes are differently expressed

- a) in the brain of two different queen morphs (and their workers) of the ant *Temnothorax rugatulus*, which differ in metabolic rate and longevity
- b) In the fat body of fertile, formerly fertile and sterile workers
- c) in the fat body of queens, for which we manipulated experimentally fecundity and longevity.

This project includes the deNovo assembly of transcriptomes, mapping of reads, and subsequent expression, WGCNA and functional enrichment analyses. If you are interested in these cool projects, please contact us!

Start: April – June 2018

We search for: Master of Bioinformatics student

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