



## **Genes underlying social organisation in honeybees**

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Worker honeybees show a fascinating behavioral plasticity, in which tasks are performed as a function of age of the bees. The most prominent tasks can be observed in young nurse bees that take care of the larvae and older forager bees that search for food (water, nectar and pollen) outside of the hive. These differences can be explained by the response threshold theory. It states that individuals, which perform different tasks, have different response thresholds for task-associated stimuli. Indeed, different worker bees (foragers vs. nurses) differ in their response thresholds. For example, foragers show a higher sucrose responsiveness than nurse bees. My research focus on distinct candidate genes, that might be involved in regulation of these individual sensory response thresholds. Here I present the results of the characterization of these genes and their gene products. This includes a wide range of different types of analyses such as expression analysis (mRNA and protein level), functional analysis of the intracellular pathways, and behavioral experiments.