Active components in the queen regurgitate involved in the regulation of body size and caste in the bumble bee *Bombus terrestris*

Deadline for applications: 30 May 2023

Bumble bees provide important models for research on the evolution of sociality because they represent an intermediate level of social complexity, commonly referred to as *"primitively eusocial"*. Body size is important for caste determination and for the division of labor among workers performing different tasks. In spite of their ecological and economical importance of bumble bees, little is known about the sociobiological and molecular processes regulating body size. We have previously shown that larvae that interact with a queen during a critical period develop over shorter duration, do not develop into gynes, and are typically smaller that larvae that do not experience the queen during the same period. Our unpublished proteomic and miRNA transcriptomic analyses suggest that substance in the mandibular glands and the hypopharyngeal glands of the queen play important roles in the regulation of larval development and caste fate.

We are looking for a highly motivated and independent postdoctoral fellow to lead a project aimed at deciphering the social and molecular mechanisms involved in the regulation of body size in the model bumble bee Bombus terrestris.

Required qualifications

- A PhD degree in Entomology, Zoology, genetics, neurobiology, molecular biology or related fields
- Relevant lab expertise in molecular biology, proteomics, bioinformatics, insect physiology, or developmental biology
- An excellent academic record
- Experience in organismal biology (e.g., animal behavior, neuroethology, or ecology) is advantageous.
- Fluent spoken and written English
- Excellent communication and interpersonal skills, ability to work independently and

in a team.

We offer a strong, internationally recognized and interdisciplinary working environment with an open academic atmosphere. Location in the beautiful city of Jerusalem.
The position is for 2-3 years.

For further information, please consult with our web site (https://guybloch.huji.ac.il/) or contact Prof. Guy Bloch (guy.bloch@mail.huji.ac.il)