Light reading: which photoreceptors synchronize the seasonal and the circadian clocks in bumblebees?

The Tauber lab at the University of Haifa (bit.ly/tauber-lab) seeks a highly motivated PhD student with a strong interest in genetics and brain function. The project comes with a fully funded PhD stipend as part of the CINCHRON consortium (https://cinchron.org/), and is open to students of any nationality who have not spent more than 12 months in Israel in the last 3 years, and who are in the first four years of their research careers (subject to a successful visa application). Applicants are encouraged to contact the Principal Supervisor directly to discuss their application and the project. To apply, send a CV to **eran.tauber@gmail.com**; suitable applicants will be contacted with a request for a full application consisting of a Personal Statement, CV, and 2-3 references.

Project background. The annual change of the day-length is a robust environmental cue that is used by animals and plants for timing their seasonal responses. Prominent examples include flowering time in plants, bird migration, and winter hibernation in some mammal species. Despite the importance of this process, the molecular basis of the photoperiodic calendar is largely unknown. This PhD studentship is embedded within a larger project that aims to fill these knowledge gaps, using the bumblebee as a model.

The project aims at identifying the dedicated photoreceptors for seasonality, where they are expressed, and identifying natural variants of these photoreceptors. Four candidate opsins have been uncovered in the honeybee genome, and their expression patterns, temporally and spatially, will be studied in the brain followed by dsRNAi knockdown to examine their effects on seasonal response and resetting the circadian clock.

Within this project, you will have considerable scope to develop interests in genetics, genomics, bioinformatics, and evolutionary biology. You will also have opportunities to receive formal training in genomics and bioinformatics through structured courses, skills highly in demand in academia and industry. Finally, you will benefit from a vibrant research environment in the Institute of Evolution that is ideally placed to understand how animals respond to environmental and evolutionary challenges.