

Research project at the interface of behavioural ecology, energetics, and life-history evolution

The project is part of a collaboration between [Vincent Careau](#) (University of Ottawa) and [Sue Bertram](#) (Carleton University) on the relationships between sexual signaling, metabolic rate, diet quality, and longevity in male crickets. A preliminary study has already been completed, which revealed a trade-off between sexual signalling and somatic maintenance (Fig. 1). The student will have access to the dataset to write a short manuscript while planning and conducting a follow-up study, which will involve a diet manipulation that has been shown to alter calling effort and longevity in male crickets ([Hunt et al., 2004](#)). The idea will be to replicate the findings in Hunt et al. ([2004](#)), while taking

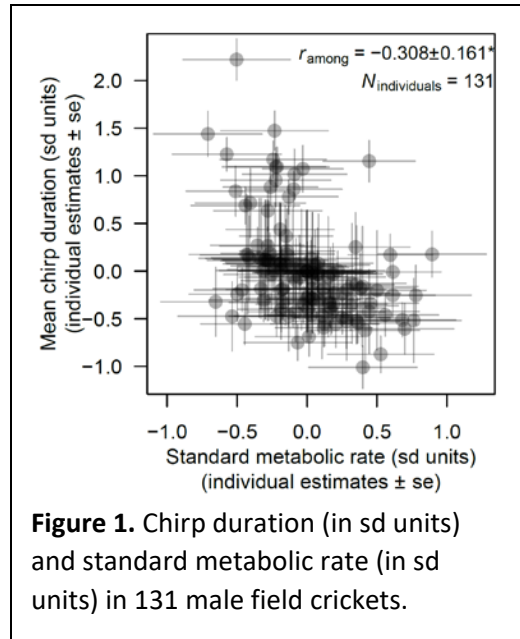


Figure 1. Chrip duration (in sd units) and standard metabolic rate (in sd units) in 131 male field crickets.

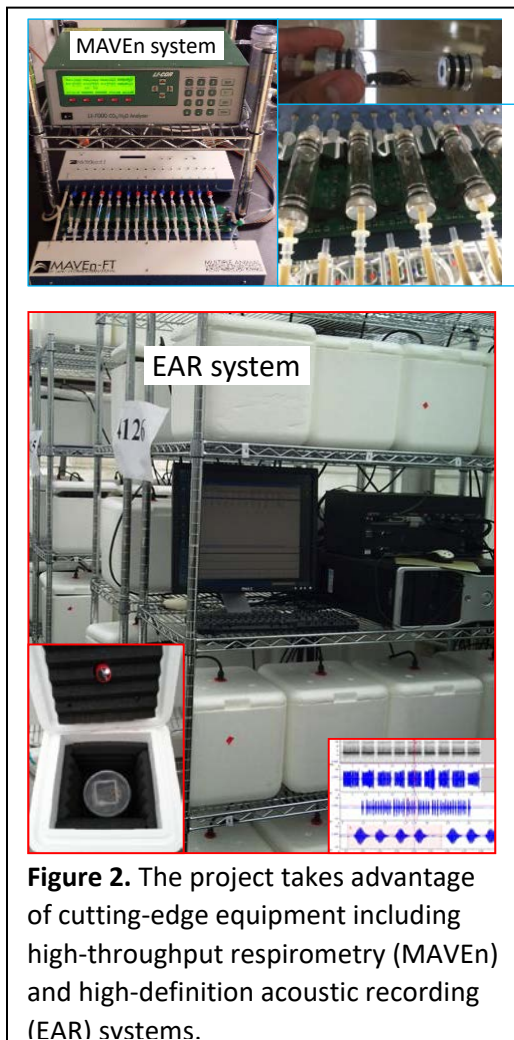


Figure 2. The project takes advantage of cutting-edge equipment including high-throughput respirometry (MAVEN) and high-definition acoustic recording (EAR) systems.

high-definition acoustic measurements of male signing effort and adding measures of somatic maintenance (standard metabolic rate). The resulting dataset will allow testing if and how diet quality affects the trade-off between maintenance and reproduction.



How to apply?

Please send an email to vcareau@uottawa.ca and sue.bertram@carleton.ca and include a brief description of your background, research interests, and a copy of your transcripts, CV, and the name and contact details of an academic reference. An external scholarship (e.g., NSERC, OGS, FRQNT) is not required although candidates are strongly encouraged to apply and preference is normally given to those with such funding. Useful information for prospective students at uOttawa can be found [here](#), [here](#), and [here](#). A minimum salary of \$20,000 per year is guaranteed. Those with strong averages (>9/10 for MSc and >8-10 for PhD) also qualify for an [admission scholarship](#) that provides free tuition. International PhD students pay tuition at the level of Canadian students (~8000\$/year), and also have access to travel funds for a visit. Ideal starting date is May 2022 (but September 2022 is also possible). Applications will be evaluated until the position is filled.