Abstract:
Uncertainty is pervasive across domains in the field of evolutionary ecology. An important role of uncertainty within the biological domain relates to phenotypic plasticity. This evolved ability allows individual organisms to adjust their phenotype so as to cope with moderate environmental change. For such plastic adjustment to be beneficial, uncertainty about the future state of the environment has to be minimized by the integration of information across multiple channels. This is challenging because environmental states fluctuate both temporally and spatially. In the first part of my talk, I will present my own research in this field, covering both theoretical expectations as well as practical outcomes. Afterwards, I will delve into the role of uncertainty within the statistical domain by presenting common statistical practices along with associated misconceptions in our field. Lastly, I will highlight what evolutionary ecologists currently propose as the best ways to deal with statistical uncertainty in order to advance our scientific knowledge.