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Graduate Student Opportunity: Butterfly Population Ecology.

Effect of extreme weather events on alpine butterfly population dynamics in the Rocky Mountains.

Department of Biological Sciences, University of Alberta, Edmonton.

PhD (preferred) and/or MSc position to study the effect of extreme weather events on alpine butterfly populations. This project takes advantage of a long-term (23 years) study of dynamics of alpine *Parnassius* (Apollo) butterfly populations in the front ranges of the Rocky Mountains of Alberta. The project examines interactions among population dynamics, weather and climate, physiology, geographic range, and population genetics. The position will be co-supervised by **Drs. Jens Roland** and **Felix Sperling** at the University of Alberta, Edmonton, Canada. The study examines the role of extreme weather events as a component of dynamics, life-history, and adaptation, in light of the effects of climate change in a highly variable environment.

Students should have a strong interest in population biology, ecology, and dynamics, as well as strong quantitative (R) and field skills. Projects involve both descriptive and experimental studies of *Parnassius* butterfly ecology and physiology as they relate to spatial and temporal variation in alpine environments, and their effects on population dynamics. Previous experience working on butterflies is an advantage but not a requirement.

Please contact **Dr. Jens Roland** (jroland@ualberta.ca), and include a CV and a 1-2 page letter that outlines your career goals, previous research experience, and contact information for 3 references. Opportunities are open until position(s) is filled.